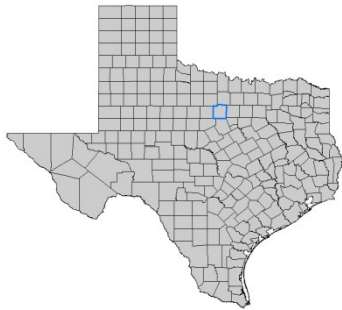


FLOOD INSURANCE STUDY

FEDERAL EMERGENCY MANAGEMENT AGENCY

VOLUME 1 OF 3



PALO PINTO COUNTY, TX

AND INCORPORATED AREAS

COMMUNITY NAME	NUMBER
GORDON, CITY OF	480963
GRAFORD, CITY OF	480964
MINERAL WELLS, CITY OF	480517
MINGUS, CITY OF	480518
PALO PINTO COUNTY, UNINCORPORATED AREAS	480516
STRAWN, CITY OF	480965



FEMA

REVISED

FLOOD INSURANCE STUDY NUMBER
48363CV001B

Version Number 2.3.3.2

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Cedar Creek	Panel 10P
Crystal Creek	Panels 11P-16P
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Crystal Creek Tributary 3	Panels 18P-19P
Crystal Creek Tributary 5	Panels 20P-22P
Lime Creek	Panel 23P
Lime Creek Tributary 1	Panel 24P
Pollard Creek	Panels 25P-30P

Pollard Creek Tributary 1
Pollard Creek Tributary 2
Pollard Creek Tributary 4
Pollard Creek Tributary 5
Pollard Creek Tributary 7
Rock Creek
Rock Creek Tributary 1
Rock Creek Tributary 2
Whatley Creek

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Panel 46P

Published Separately

Flood Insurance Rate Map (FIRM)

FLOOD INSURANCE STUDY REPORT PALO PINTO COUNTY, TEXAS

SECTION 1.0 – INTRODUCTION

1.1 The National Flood Insurance Program

The National Flood Insurance Program (NFIP) is a voluntary Federal program that enables property owners in participating communities to purchase insurance protection against losses from flooding. This insurance is designed to provide an insurance alternative to disaster assistance to meet the escalating costs of repairing damage to buildings and their contents caused by floods.

For decades, the national response to flood disasters was generally limited to constructing flood-control works such as dams, levees, sea-walls, and the like, and providing disaster relief to flood victims. This approach did not reduce losses nor did it discourage unwise development. In some instances, it may have actually encouraged additional development. To compound the problem, the public generally could not buy flood coverage from insurance companies, and building techniques to reduce flood damage were often overlooked.

In the face of mounting flood losses and escalating costs of disaster relief to the general taxpayers, the U.S. Congress created the NFIP. The intent was to reduce future flood damage through community floodplain management ordinances, and provide protection for property owners against potential losses through an insurance mechanism that requires a premium to be paid for the protection.

The U.S. Congress established the NFIP on August 1, 1968, with the passage of the National Flood Insurance Act of 1968. The NFIP was broadened and modified with the passage of the Flood Disaster Protection Act of 1973 and other legislative measures. It was further modified by the National Flood Insurance Reform Act of 1994 and the Flood Insurance Reform Act of 2004. The NFIP is administered by the Federal Emergency Management Agency (FEMA), which is a component of the Department of Homeland Security (DHS).

Participation in the NFIP is based on an agreement between local communities and the Federal Government. If a community adopts and enforces floodplain management regulations to reduce future flood risks to new construction and substantially improved structures in Special Flood Hazard Areas (SFHAs), the Federal Government will make flood insurance available within the community as a financial protection against flood losses. The community's floodplain management regulations must meet or exceed criteria established in accordance with Title 44 Code of Federal Regulations (CFR) Part 60.3, *Criteria for Land Management and Use*.

SFHAs are delineated on the community's Flood Insurance Rate Maps (FIRMs). Under the NFIP, buildings that were built before the flood hazard was identified on the community's FIRMs are generally referred to as "Pre-FIRM" buildings. When the NFIP was created, the U.S. Congress recognized that insurance for Pre-FIRM buildings would be prohibitively expensive if the premiums were not subsidized by the Federal Government. Congress also recognized that most of these floodprone buildings were built by individuals who did not have sufficient knowledge of the flood hazard to make informed decisions. The NFIP requires that full actuarial rates reflecting the complete flood risk be charged on all buildings constructed or substantially improved on or after

the effective date of the initial FIRM for the community or after December 31, 1974, whichever is later. These buildings are generally referred to as “Post-FIRM” buildings.

1.2 Purpose of this Flood Insurance Study Report

This Flood Insurance Study (FIS) report revises and updates information on the existence and severity of flood hazards for the study area. The studies described in this report developed flood hazard data that will be used to establish actuarial flood insurance rates and to assist communities in efforts to implement sound floodplain management.

In some states or communities, floodplain management criteria or regulations may exist that are more restrictive than the minimum Federal requirements. Contact your State NFIP Coordinator to ensure that any higher State standards are included in the community’s regulations.

1.3 Jurisdictions Included in the Flood Insurance Study Project

This FIS Report covers the entire geographic area of Palo Pinto County, Texas.

The jurisdictions that are included in this project area, along with the Community Identification Number (CID) for each community and the 8-digit Hydrologic Unit Codes (HUC-8) sub-basins affecting each, are shown in Table 1. The Flood Insurance Rate Map (FIRM) panel numbers that affect each community are listed. If the flood hazard data for the community is not included in this FIS Report, the location of that data is identified.

The location of flood hazard data for participating communities in multiple jurisdictions is also indicated in the table.

Table 1: Listing of NFIP Jurisdictions

Community	CID	HUC-8 Sub-Basin(s)	Located on FIRM Panel(s)	If Not Included, Location of Flood Hazard Data
Gordon, City of	480963	12060201	48363C0525F, 48363C0550F	
Graford, City of	480964	12060201	48363C0175F, 48363C0200F	
Mineral Wells, City of*	480517	12060201	48363C0320F, 48363C0325F, 48363C0330F, 48363C0340F, 48363C0350F	Parker County FIS Report, <i>unpublished</i>
Mingus, City of	480518	12060201	48363C0525F	
Palo Pinto County, Unincorporated Areas	480516	12060201	48363C0025F, 48363C0050F, 48363C0075F, 48363C0100F, 48363C0125F, 48363C0150F, 48363C0175F, 48363C0200F, 48363C0225F, 48363C0250F, 48363C0275F, 48363C0300F, 48363C0320F, 48363C0325F, 48363C0330F, 48363C0340F, 48363C0350F, 48363C0375E, 48363C0400F, 48363C0425F, 48363C0450F, 48363C0475F, 48363C0500F, 48363C0525F, 48363C0550F, 48363C0575F, 48363C0600F	

Community	CID	HUC-8 Sub-Basin(s)	Located on FIRM Panel(s)	If Not Included, Location of Flood Hazard Data
Strawn, City of	480965	12060201	48363C0500F, 48363C0525F	

* City of Mineral Wells is separately published in the Palo Pinto County FIS and in the Parker County FIS.

1.4 Considerations for using this Flood Insurance Study Report

The NFIP encourages State and local governments to implement sound floodplain management programs. To assist in this endeavor, each FIS Report provides floodplain data, which may include a combination of the following: 10-, 4-, 2-, 1-, and 0.2-percent annual chance flood elevations (the 1% annual chance flood elevation is also referred to as the Base Flood Elevation (BFE)); delineations of the 1% annual chance and 0.2% annual chance floodplains; and 1% annual chance floodway. This information is presented on the FIRM and/or in many components of the FIS Report, including Flood Profiles, Floodway Data tables, Summary of Non-Coastal Stillwater Elevations tables, and Coastal Transect Parameters tables (not all components may be provided for a specific FIS).

This section presents important considerations for using the information contained in this FIS Report and the FIRM, including changes in format and content. Figures 1, 2, and 3 present information that applies to using the FIRM with the FIS Report.

- Part or all of this FIS Report may be revised and republished at any time. In addition, part of this FIS Report may be revised by a Letter of Map Revision (LOMR), which does not involve republication or redistribution of the FIS Report. Refer to Section 6.5 of this FIS Report for information about the process to revise the FIS Report and/or FIRM.

It is, therefore, the responsibility of the user to consult with community officials by contacting the community repository to obtain the most current FIS Report components. Communities participating in the NFIP have established repositories of flood hazard data for floodplain management and flood insurance purposes. Community map repository addresses are provided in Table 31, “Map Repositories,” within this FIS Report.

- New FIS Reports are frequently developed for multiple communities, such as entire counties. A countywide FIS Report incorporates previous FIS Reports for individual communities and the unincorporated area of the county (if not jurisdictional) into a single document and supersedes those documents for the purposes of the NFIP.

The initial Countywide FIS Report for Palo Pinto County became effective on August 2, 2012. Refer to Table 28 for information about subsequent revisions to the FIRMs.

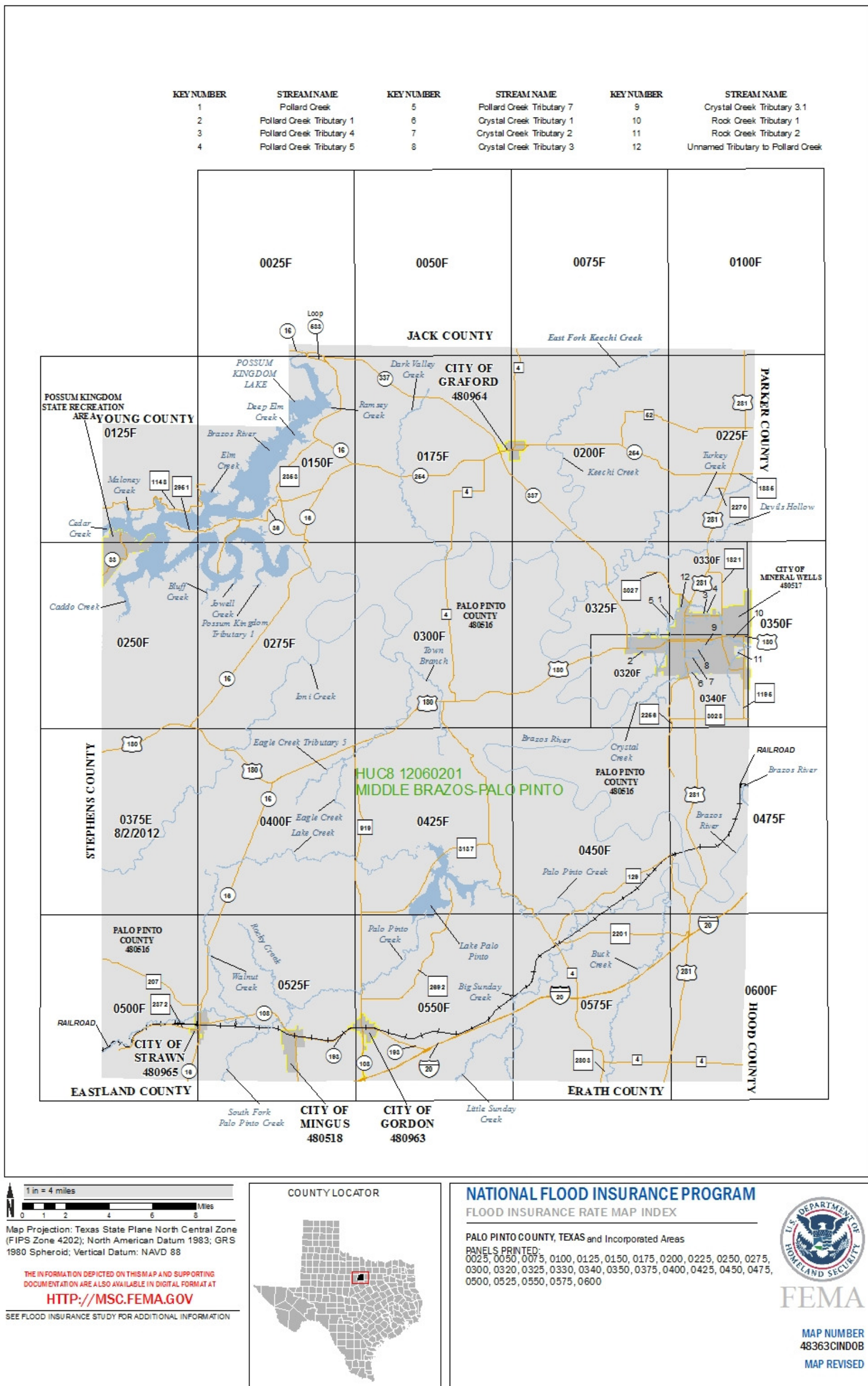
- Previous FIS Reports and FIRMs may have included levees that were accredited as reducing the risk associated with the 1% annual chance flood based on the information available and the mapping standards of the NFIP at that time. For FEMA to continue to accredit the identified levees, the levees must meet the criteria of the Code of Federal Regulations, Title 44, Section 65.10 (44 CFR 65.10), titled “Mapping of Areas Protected by Levee Systems.”

Since the status of levees is subject to change at any time, the user should contact the appropriate agency for the latest information regarding levees presented in Table 9 of this FIS Report. For levees owned or operated by the U.S. Army Corps of Engineers (USACE), information may be obtained from the USACE national levee database (nld.usace.army.mil). For all other levees, the user is encouraged to contact the appropriate local community.

- FEMA has developed a *Guide to Flood Maps* (FEMA 258) and online tutorials to assist users in accessing the information contained on the FIRM. These include how to read panels and step-by-step instructions to obtain specific information. To obtain this guide and other assistance in using the FIRM, visit the FEMA Web site at <http://www.fema.gov/online-tutorials>.

The FIRM Index in Figure 1 shows the overall FIRM panel layout within Palo Pinto County, and also displays the panel number and effective date for each FIRM panel in the county. Other information shown on the FIRM Index includes community boundaries, flooding sources, watershed boundaries, and United States Geological Survey (USGS) Hydrologic Unit Code – 8 (HUC-8) codes.

Figure 1: FIRM Panel Index



Each FIRM panel may contain specific notes to the user that provide additional information regarding the flood hazard data shown on that map. However, the FIRM panel does not contain enough space to show all the notes that may be relevant in helping to better understand the information on the panel. Figure 2 contains the full list of these notes.

Figure 2: FIRM Notes to Users

NOTES TO USERS

For information and questions about this map, available products associated with this FIRM including historic versions of this FIRM, how to order products, or the National Flood Insurance Program in general, please call the FEMA Map Information eXchange at 1-877-FEMA-MAP (1-877-336-2627) or visit the FEMA Map Service Center website at msc.fema.gov. Available products may include previously issued Letters of Map Change, a Flood Insurance Study Report, and/or digital versions of this map. Many of these products can be ordered or obtained directly from the website. Users may determine the current map date for each FIRM panel by visiting the FEMA Map Service Center website or by calling the FEMA Map Information eXchange.

Communities annexing land on adjacent FIRM panels must obtain a current copy of the adjacent panel as well as the current FIRM Index. These may be ordered directly from the Map Service Center at the number listed above.

For community and countywide map dates, refer to Table 28 in this FIS Report.

To determine if flood insurance is available in the community, contact your insurance agent or call the National Flood Insurance Program at 1-800-638-6620.

PRELIMINARY FIS REPORT: FEMA maintains information about map features, such as street locations and names, in or near designated flood hazard areas. Requests to revise information in or near designated flood hazard areas may be provided to FEMA during the community review period, at the final Consultation Coordination Officer's meeting, or during the statutory 90-day appeal period. Approved requests for changes will be shown on the final printed FIRM.

The map is for use in administering the NFIP. It may not identify all areas subject to flooding, particularly from local drainage sources of small size. Consult the community map repository to find updated or additional flood hazard information.

BASE FLOOD ELEVATIONS: For more detailed information in areas where Base Flood Elevations (BFEs) and/or floodways have been determined, consult the Flood Profiles and Floodway Data and/or Summary of Stillwater Elevations tables within this FIS Report. Use the flood elevation data within the FIS Report in conjunction with the FIRM for construction and/or floodplain management.

FLOODWAY INFORMATION: Boundaries of the floodways were computed at cross sections and interpolated between cross sections. The floodways were based on hydraulic considerations with regard to requirements of the National Flood Insurance Program. Floodway widths and other pertinent floodway data are provided in the FIS Report for this jurisdiction.

Figure 2. FIRM Notes to Users

FLOOD CONTROL STRUCTURE INFORMATION: Certain areas not in Special Flood Hazard Areas may be protected by flood control structures. Refer to Section 4.3 "Non-Levee Flood Protection Measures" of this FIS Report for information on flood control structures for this jurisdiction.

PROJECTION INFORMATION: The projection used in the preparation of the map was Texas State Plane North Central Zone (FIPS Zone 4202). The horizontal datum was NAD 83 GRS 1980 Spheroid. Differences in datum, spheroid, projection or State Plane zones used in the production of FIRMs for adjacent jurisdictions may result in slight positional differences in map features across jurisdiction boundaries. These differences do not affect the accuracy of the FIRM.

ELEVATION DATUM: Flood elevations on the FIRM are referenced to the North American Vertical Datum of 1988 (NAVD 88). These flood elevations must be compared to structure and ground elevations referenced to the same vertical datum. For information regarding conversion between the National Geodetic Vertical Datum of 1929 and the North American Vertical Datum of 1988 (NAVD 88), visit the National Geodetic Survey website at www.ngs.noaa.gov/ or contact the National Geodetic Survey at the following address:

*NGS Information Services
NOAA, N/NGS12
National Geodetic Survey
SSMC-3, #9202
1315 East-West Highway
Silver Spring, Maryland 20910-3282
(301) 713-3242*

Local vertical monuments may have been used to create the map. To obtain current monument information, please contact the appropriate local community listed in Table 31 of this FIS Report.

BASE MAP INFORMATION: Base map information shown on the FIRM was derived from various sources in 2009, including Texas Natural Resources Information System, North Central Texas Council of Governments, National Geodetic Survey, and USGS. For information about base maps, refer to Section 6.2 "Base Map" in this FIS Report.

Corporate limits shown on the map are based on the best data available at the time of publication. Because changes due to annexations or de-annexations may have occurred after the map was published, map users should contact appropriate community officials to verify current corporate limit locations.

Figure 2. FIRM Notes to Users

<p>NOTES FOR FIRM INDEX</p> <p><u>REVISIONS TO INDEX</u>: As new studies are performed and FIRM panels are updated within Palo Pinto County, TX, corresponding revisions to the FIRM Index will be incorporated within the FIS Report to reflect the effective dates of those panels. Please refer to Table 28 of this FIS Report to determine the most recent FIRM revision date for each community. The most recent FIRM panel effective date will correspond to the most recent index date.</p>
<p>SPECIAL NOTES FOR SPECIFIC FIRM PANELS</p> <p>This Notes to Users section was created specifically for Palo Pinto County, TX, effective August 8, 8888.</p>
<p><u>FLOOD RISK REPORT</u>: A Flood Risk Report (FRR) may be available for many of the flooding sources and communities referenced in this FIS Report. The FRR is provided to increase public awareness of flood risk by helping communities identify the areas within their jurisdictions that have the greatest risks. Although non-regulatory, the information provided within the FRR can assist communities in assessing and evaluating mitigation opportunities to reduce these risks. It can also be used by communities developing or updating flood risk mitigation plans. These plans allow communities to identify and evaluate opportunities to reduce potential loss of life and property. However, the FRR is not intended to be the final authoritative source of all flood risk data for a project area; rather, it should be used with other data sources to paint a comprehensive picture of flood risk.</p>

Each FIRM panel contains an abbreviated legend for the features shown on the maps. However, the FIRM panel does not contain enough space to show the legend for all map features. Figure 3 shows the full legend of all map features. Note that not all of these features may appear on the FIRM panels in Palo Pinto County.

Figure 3: Map Legend for FIRM


<p>SPECIAL FLOOD HAZARD AREAS: <i>The 1% annual chance flood, also known as the base flood or 100-year flood, has a 1% chance of happening or being exceeded each year. Special Flood Hazard Areas are subject to flooding by the 1% annual chance flood. The Base Flood Elevation is the water surface elevation of the 1% annual chance flood. The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights. See note for specific types. If the floodway is too narrow to be shown, a note is shown.</i></p>	
	Special Flood Hazard Areas subject to inundation by the 1% annual chance flood (Zones A, AE, AH, AO, AR, A99, V and VE)
Zone A	The flood insurance rate zone that corresponds to the 1% annual chance floodplains. No base (1% annual chance) flood elevations (BFEs) or depths are shown within this zone.
Zone AE	The flood insurance rate zone that corresponds to the 1% annual chance floodplains. Base flood elevations derived from the hydraulic analyses are shown within this zone, either at cross section locations or as static whole-foot elevations that apply throughout the zone.
Zone AH	The flood insurance rate zone that corresponds to the areas of 1% annual chance shallow flooding (usually areas of ponding) where average depths are between 1 and 3 feet. Whole-foot BFEs derived from the hydraulic analyses are shown at selected intervals within this zone.
Zone AO	The flood insurance rate zone that corresponds to the areas of 1% annual chance shallow flooding (usually sheet flow on sloping terrain) where average depths are between 1 and 3 feet. Average whole-foot depths derived from the hydraulic analyses are shown within this zone.
Zone AR	The flood insurance rate zone that corresponds to areas that were formerly protected from the 1% annual chance flood by a flood control system that was subsequently decertified. Zone AR indicates that the former flood control system is being restored to provide protection from the 1% annual chance or greater flood.
Zone A99	The flood insurance rate zone that corresponds to areas of the 1% annual chance floodplain that will be protected by a Federal flood protection system where construction has reached specified statutory milestones. No base flood elevations or flood depths are shown within this zone.
Zone V	The flood insurance rate zone that corresponds to the 1% annual chance coastal floodplains that have additional hazards associated with storm waves. Base flood elevations are not shown within this zone.
Zone VE	Zone VE is the flood insurance rate zone that corresponds to the 1% annual chance coastal floodplains that have additional hazards associated with storm waves. Base flood elevations derived from the coastal analyses are shown within this zone as static whole-foot elevations that apply throughout the zone.

Figure 3: Map Legend for FIRM







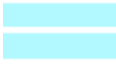




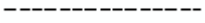
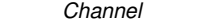
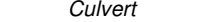
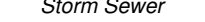
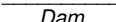


	Regulatory Floodway determined in Zone AE.
OTHER AREAS OF FLOOD HAZARD	
	Shaded Zone X: Areas of 0.2% annual chance flood hazards and areas of 1% annual chance flood hazards with average depths of less than 1 foot or with drainage areas less than 1 square mile.
	Future Conditions 1% Annual Chance Flood Hazard – Zone X: The flood insurance rate zone that corresponds to the 1% annual chance floodplains that are determined based on future-conditions hydrology. No base flood elevations or flood depths are shown within this zone.
	Area with Reduced Flood Risk due to Levee: Areas where an accredited levee, dike, or other flood control structure has reduced the flood risk from the 1% annual chance flood.
OTHER AREAS	
	Zone D (Areas of Undetermined Flood Hazard): The flood insurance rate zone that corresponds to unstudied areas where flood hazards are undetermined, but possible.
	Unshaded Zone X: Areas of minimal flood hazard.
FLOOD HAZARD AND OTHER BOUNDARY LINES	
 (ortho)  (vector)	Flood Zone Boundary (white line on ortho-photography-based mapping; gray line on vector-based mapping)
	Limit of Study
	Jurisdiction Boundary
	Limit of Moderate Wave Action (LiMWA): Indicates the inland limit of the area affected by waves greater than 1.5 feet
GENERAL STRUCTURES	
   	Channel, Culvert, Aqueduct, or Storm Sewer
  	Dam, Jetty, Weir

Figure 3: Map Legend for FIRM



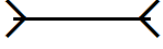

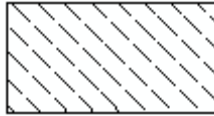

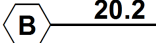

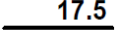
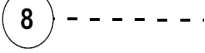











   <i>Bridge</i>	<p>Levee, Dike, or Floodwall accredited or provisionally accredited to reduce the flood risk from the 1% annual chance flood.</p> <p>Levee, Dike or Floodwall not accredited to reduce the flood risk from the 1% annual chance flood.</p> <p>Bridge</p>
<p>COASTAL BARRIER RESOURCES SYSTEM (CBRS) AND OTHERWISE PROTECTED AREAS (OPA): <i>CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Areas.</i></p>  CBRS AREA 09/30/2009  OTHERWISE PROTECTED AREA 09/30/2009	<p>Coastal Barrier Resources System Area: Labels are shown to clarify where this area shares a boundary with an incorporated area or overlaps with the floodway.</p> <p>Otherwise Protected Area</p>
<p>REFERENCE MARKERS</p>  22.0	<p>River mile Markers</p>
<p>CROSS SECTION & TRANSECT INFORMATION</p>  20.2  21.1  17.5  8	<p>Lettered Cross Section with Regulatory Water Surface Elevation (BFE)</p> <p>Numbered Cross Section with Regulatory Water Surface Elevation (BFE)</p> <p>Unlettered Cross Section with Regulatory Water Surface Elevation (BFE)</p> <p>Coastal Transect</p>
 	<p>Profile Baseline: Indicates the modeled flow path of a stream and is shown on FIRM panels for all valid studies with profiles or otherwise established base flood elevation.</p> <p>Coastal Transect Baseline: Used in the coastal flood hazard model to represent the 0.0-foot elevation contour and the starting point for the transect and the measuring point for the coastal mapping.</p>
 513 ZONE AE (EL 16)	<p>Base Flood Elevation Line (shown for flooding sources for which no cross sections or profile are available)</p> <p>Static Base Flood Elevation value (shown under zone label)</p>

Figure 3: Map Legend for FIRM

ZONE AO (DEPTH 2)	Zone designation with Depth
ZONE AO (DEPTH 2) (VEL 15 FPS)	Zone designation with Depth and Velocity
BASE MAP FEATURES	
<u>Missouri Creek</u>	River, Stream or Other Hydrographic Feature
	Interstate Highway
	U.S. Highway
	State Highway
	County Highway
<u>MAPLE LANE</u>	Street, Road, Avenue Name, or Private Drive if shown on Flood Profile
 RAILROAD	Railroad
	Horizontal Reference Grid Line
	Horizontal Reference Grid Ticks
	Secondary Grid Crosshairs
Land Grant	Name of Land Grant
7	Section Number
R. 43 W. T. 22 N.	Range, Township Number
⁴² 76 ^{000m} E	Horizontal Reference Grid Coordinates (UTM)
365000 FT	Horizontal Reference Grid Coordinates (State Plane)
80° 16' 52.5"	Corner Coordinates (Latitude, Longitude)

SECTION 2.0 – FLOODPLAIN MANAGEMENT APPLICATIONS

2.1 Floodplain Boundaries

To provide a national standard without regional discrimination, the 1% annual chance (100-year) flood has been adopted by FEMA as the base flood for floodplain management purposes. The 0.2% annual chance (500-year) flood is employed to indicate additional areas of flood hazard in the community.

Each flooding source included in the project scope has been studied and mapped using professional engineering and mapping methodologies that were agreed upon by FEMA and Palo Pinto County as appropriate to the risk level. Flood risk is evaluated based on factors such as known flood hazards and projected impact on the built environment. Engineering analyses were performed for each studied flooding source to calculate its 1% annual chance flood elevations; elevations corresponding to other floods (e.g. 10-, 4-, 2-, 0.2-percent annual chance, etc.) may have also been computed for certain flooding sources. Engineering models and methods are described in detail in Section 5.0 of this FIS Report. The modeled elevations at cross sections were used to delineate the floodplain boundaries on the FIRM; between cross sections, the boundaries were interpolated using elevation data from various sources. More information on specific mapping methods is provided in Section 6.0 of this FIS Report.

Depending on the accuracy of available topographic data (Table 23), study methodologies employed (Section 5.0), and flood risk, certain flooding sources may be mapped to show both the 1% and 0.2% annual chance floodplain boundaries, regulatory water surface elevations (BFEs), and/or a regulatory floodway. Similarly, other flooding sources may be mapped to show only the 1% annual chance floodplain boundary on the FIRM, without published water surface elevations. In cases where the 1% and 0.2% annual chance floodplain boundaries are close together, only the 1% annual chance floodplain boundary is shown on the FIRM. Figure 3, “Map Legend for FIRM”, describes the flood zones that are used on the FIRMs to account for the varying levels of flood risk that exist along flooding sources within the project area. Table 2 and Table 3 indicate the flood zone designations for each flooding source and each community within Palo Pinto County, Texas, respectively.

Table 2, “Flooding Sources Included in this FIS Report,” lists each flooding source, including its study limits, affected communities, mapped zone on the FIRM, and the completion date of its engineering analysis from which the flood elevations on the FIRM and in the FIS Report were derived. Descriptions and dates for the latest hydrologic and hydraulic analyses of the flooding sources are shown in Table 13. Floodplain boundaries for these flooding sources are shown on the FIRM (published separately) using the symbology described in Figure 3. On the map, the 1% annual chance floodplain corresponds to the SFHAs. The 0.2% annual chance floodplain shows areas that, although out of the regulatory floodplain, are still subject to flood hazards.

Small areas within the floodplain boundaries may lie above the flood elevations but cannot be shown due to limitations of the map scale and/or lack of detailed topographic data. The procedures to remove these areas from the SFHA are described in Section 6.5 of this FIS Report.

2.2 Floodways

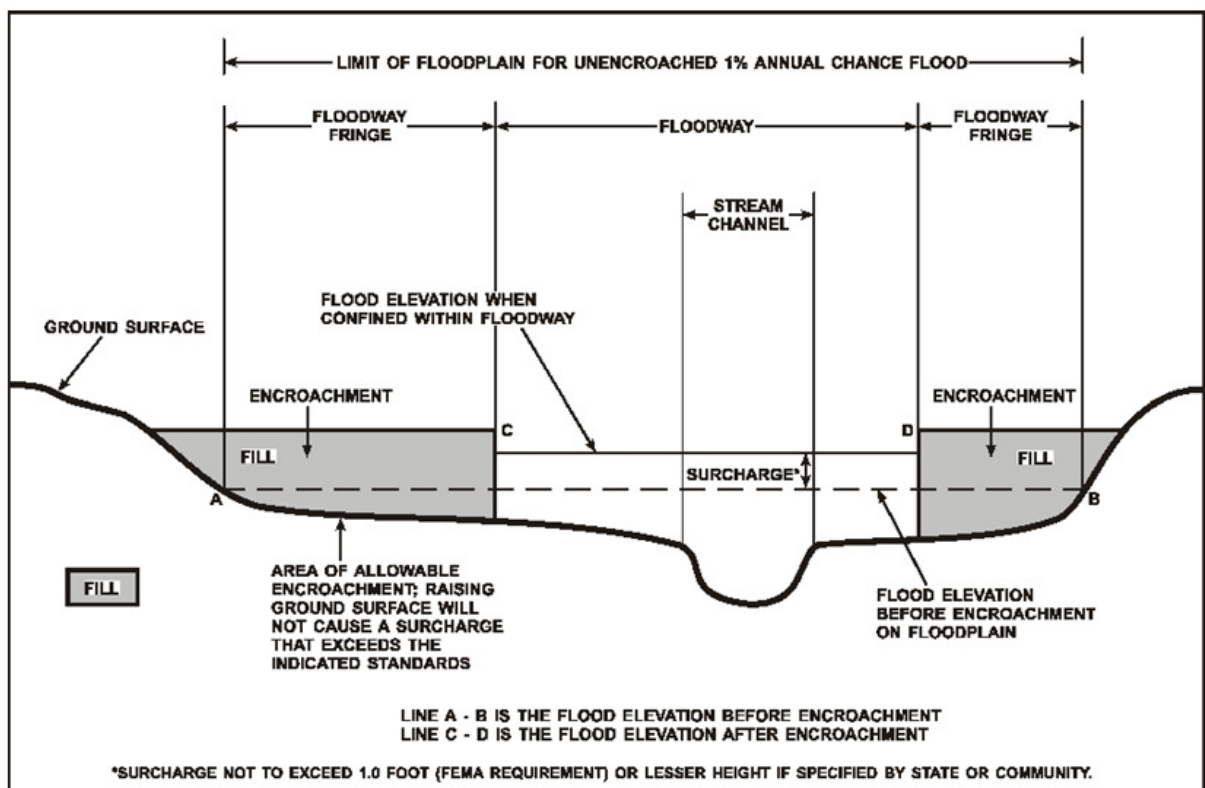
Encroachment on floodplains, such as structures and fill, reduces flood-carrying capacity, increases flood heights and velocities, and increases flood hazards in areas beyond the

encroachment itself. One aspect of floodplain management involves balancing the economic gain from floodplain development against the resulting increase in flood hazard.

For purposes of the NFIP, a floodway is used as a tool to assist local communities in balancing floodplain development against increasing flood hazard. With this approach, the area of the 1% annual chance floodplain on a river is divided into a floodway and a floodway fringe based on hydraulic modeling. The floodway is the channel of a stream, plus any adjacent floodplain areas, that must be kept free of encroachment in order to carry the 1% annual chance flood. The floodway fringe is the area between the floodway and the 1% annual chance floodplain boundaries where encroachment is permitted. The floodway must be wide enough so that the floodway fringe could be completely obstructed without increasing the water surface elevation of the 1% annual chance flood more than 1 foot at any point. Typical relationships between the floodway and the floodway fringe and their significance to floodplain development are shown in Figure 4.

To participate in the NFIP, Federal regulations require communities to limit increases caused by encroachment to 1.0 foot, provided that hazardous velocities are not produced. Regulations for Texas limit increases caused by encroachment to 1.0 foot where possible. The floodways in this project are presented to local agencies as minimum standards that can be adopted directly or that can be used as a basis for additional floodway projects.

Figure 4: Floodway Schematic



Floodway widths presented in this FIS Report and on the FIRM were computed at cross sections. Between cross sections, the floodway boundaries were interpolated. For certain stream segments,

floodways were adjusted so that the amount of floodwaters conveyed on each side of the floodplain would be reduced equally. The results of the floodway computations have been tabulated for selected cross sections and are shown in Table 23 “Floodway Data.”

All floodways that were developed for this FIS project are shown on the FIRM using the symbology described in Figure 2. In cases where the floodway and 1% annual chance floodplain boundaries are either close together or collinear, only the floodway boundary has been shown on the FIRM. For information about the delineation of floodways on the FIRM, refer to Section 6.3.

Table 2: Flooding Sources Included in this FIS Report

Flooding Source	Community	Downstream Limit	Upstream Limit	HUC-8 Sub-Basin(s)	Length (mi) (streams or coastlines)	Area (mi ²) (estuaries or ponding)	Floodway (Y/N)	Zone shown on FIRM	Date of Analysis
Ainsworth Creek	Palo Pinto County, Unincorporated Areas	At the confluence with Possum Kingdom Tributary 8	Approximately 0.8 miles upstream of the confluence with Elm Creek	12060201	0.8		N	A	2016
Ainsworth Creek	Palo Pinto County, Unincorporated Areas	Approximately 0.8 miles upstream of the confluence with Elm Creek	Approximately 1.4 miles upstream of confluence with Brazos River	12060201	0.6		N	A	2016
Barton Creek	Palo Pinto County, Unincorporated Areas	At the confluence with Palo Pinto Creek	At border of Palo Pinto and Erath Counties	12060201	8.4		N	A	2016
Barton Creek Tributary 1	Palo Pinto County, Unincorporated Areas	At the confluence with Barton Creek	Approximately 2.7 miles upstream of the confluence with Barton Creek	12060201	2.7		N	A	2016
Barton Creek Tributary 2	Gordon, City of; Palo Pinto County, Unincorporated Areas	At the confluence with Barton Creek	Approximately 2.8 miles upstream of the confluence with Barton Creek	12060201	2.8		N	A	2016
Bear Canyon	Palo Pinto County, Unincorporated Areas	At the confluence with Lake Creek	Approximately 1.8 miles upstream of the confluence with Lake Creek	12060201	1.8		N	A	2016
Bear Creek	Palo Pinto County, Unincorporated Areas	At the confluence with Big Sunday Creek	Approximately 7.6 miles upstream of the confluence with Big Sunday Creek	12060201	4.3		N	A	2016

Flooding Source	Community	Downstream Limit	Upstream Limit	HUC-8 Sub-Basin(s)	Length (mi) (streams or coastlines)	Area (mi ²) (estuaries or ponding)	Floodway (Y/N)	Zone shown on FIRM	Date of Analysis
Big Sunday Creek	Palo Pinto County, Unincorporated Areas	At the confluence with Palo Pinto Creek	At border of Palo Pinto and Erath Counties	12060201	15.0		N	A	2016
Big Sunday Creek Tributary	Palo Pinto County, Unincorporated Areas	At the confluence with Big Sunday Creek	Approximately 1.5 miles upstream of the confluence with Big Sunday Creek	12060201	1.5		N	A	2016
Big Sunday Creek Tributary 2	Palo Pinto County, Unincorporated Areas	At the confluence with Big Sunday Creek	Approximately 4.1 miles upstream of the confluence with Big Sunday Creek	12060201	4.1		N	A	2016
Big Sunday Creek Tributary 3	Palo Pinto County, Unincorporated Areas	At the confluence with Big Sunday Creek	Approximately 1.1 miles upstream of the confluence with Big Sunday Creek	12060201	1.1		N	A	2016
Bills Creek	Palo Pinto County, Unincorporated Areas	At the confluence with Palo Pinto Creek	At border of Palo Pinto and Stephens Counties	12060201	9.7		N	A	2016
Bills Creek Tributary 1	Palo Pinto County, Unincorporated Areas	At the confluence with Bills Creek	Approximately 1.0 miles upstream of the confluence with Bills Creek	12060201	0.9		N	A	2016
Bills Creek Tributary 2	Palo Pinto County, Unincorporated Areas	At the confluence with Bills Creek	Approximately 1.1 miles upstream of the confluence with Bills Creek	12060201	1.1		N	A	2016

Flooding Source	Community	Downstream Limit	Upstream Limit	HUC-8 Sub-Basin(s)	Length (mi) (streams or coastlines)	Area (mi ²) (estuaries or ponding)	Floodway (Y/N)	Zone shown on FIRM	Date of Analysis
Bills Creek Tributary 3	Palo Pinto County, Unincorporated Areas	At the confluence with Bills Creek	Approximately 1.0 miles upstream of the confluence with Bills Creek	12060201	1.0		N	A	2016
Brazos River	Palo Pinto County, Unincorporated Areas	At border of Palo Pinto and Parker Counties	At border of Palo Pinto and Parker Counties	12060201	2.7		N	AE	1981
Brazos River	Palo Pinto County, Unincorporated Areas	At border of Palo Pinto and Parker Counties	At the Morris Sheppard Dam	12060201	80.5		N	A	2016
Brazos River	Palo Pinto County, Unincorporated Areas	At the Morris Sheppard Dam	At border of Palo Pinto and Young Counties	12060201	31.5		N	AE	2016
Bridges Branch	Palo Pinto County, Unincorporated Areas	At the confluence with Little Sunday Creek	At border of Palo Pinto and Erath Counties	12060201	4.8		N	A	2016
Bridges Branch Tributary	Palo Pinto County, Unincorporated Areas	At the confluence with Bridges Branch	At border of Palo Pinto and Erath Counties	12060201	1.0		N	A	2016
Brushy Hollow	Palo Pinto County, Unincorporated Areas	At the confluence with Lake Creek	Approximately 2.3 miles upstream of the confluence of Brushy Hollow Tributary 1	12060201	3.3		N	A	2016
Brushy Hollow Tributary 1	Palo Pinto County, Unincorporated Areas	At the confluence with Brushy Hollow	Approximately 0.8 miles upstream of the confluence with Brushy Hollow	12060201	0.8		N	A	2016

Flooding Source	Community	Downstream Limit	Upstream Limit	HUC-8 Sub-Basin(s)	Length (mi) (streams or coastlines)	Area (mi ²) (estuaries or ponding)	Floodway (Y/N)	Zone shown on FIRM	Date of Analysis
Buck Creek	Palo Pinto County, Unincorporated Areas	At the confluence with Palo Pinto Creek	At border of Palo Pinto and Erath Counties	12060201	16.1		N	A	2016
Buck Creek Tributary 1	Palo Pinto County, Unincorporated Areas	At the confluence with Buck Creek	Approximately 0.7 miles upstream of the confluence of Buck Creek	12060201	0.7		N	A	2016
Buck Creek Tributary 2	Palo Pinto County, Unincorporated Areas	At the confluence with Buck Creek	At border of Palo Pinto and Erath Counties	12060201	5.6		N	A	2016
Buck Creek Tributary 3	Palo Pinto County, Unincorporated Areas	At the confluence with Buck Creek Tributary 2	Approximately 2.4 miles upstream of the confluence with Buck Creek Tributary 2	12060201	2.4		N	A	2016
Buck Creek Tributary 4	Palo Pinto County, Unincorporated Areas	At the confluence with Buck Creek	Approximately 4.2 miles upstream of the confluence of Buck Creek	12060201	4.2		N	A	2016
Buck Creek Tributary 5	Palo Pinto County, Unincorporated Areas	At the confluence with Buck Creek	At border of Palo Pinto and Erath Counties	12060201	1.0		N	A	2016
Caddo Creek	Palo Pinto County, Unincorporated Areas	At the confluence with the Brazos River	Approximately 4.6 miles upstream of confluence with Brazos River	12060201	4.6		N	AE	2016
Caddo Creek	Palo Pinto County, Unincorporated Areas	Approximately 4.6 miles upstream of confluence with Brazos River	At border of Palo Pinto and Stephens Counties	12060201	4.7		N	A	2016

Flooding Source	Community	Downstream Limit	Upstream Limit	HUC-8 Sub-Basin(s)	Length (mi) (streams or coastlines)	Area (mi ²) (estuaries or ponding)	Floodway (Y/N)	Zone shown on FIRM	Date of Analysis
Carter Branch	Palo Pinto County, Unincorporated Areas	At the confluence with Palo Pinto Creek	Approximately 10.2 miles upstream of the confluence with Palo Pinto Creek	12060201	10.2		N	A	2016
Cedar Creek	Palo Pinto County, Unincorporated Areas	At the confluence with Brazos River	At border of Palo Pinto and Stephens Counties	12060201	3.4		N	AE	2016
Coffee Creek	Palo Pinto County, Unincorporated Areas	At the confluence with Brazos River	Approximately 2.0 miles upstream of confluence with Coffee Tributary 1	12060201	5.6		N	A	2016
Coffee Creek Tributary 1	Palo Pinto County, Unincorporated Areas	At the confluence with Coffee Creek	Approximately 0.67 miles upstream of confluence with Coffee Creek	12060201	0.7		N	A	2016
Coffee Creek Tributary 2	Palo Pinto County, Unincorporated Areas	At the confluence with Coffee Creek	Approximately 1.9 miles upstream of confluence with Coffee Creek	12060201	1.9		N	A	2016
Coffee Creek Tributary 3	Palo Pinto County, Unincorporated Areas	At the confluence with Coffee Creek	Approximately 0.33 miles upstream of confluence with Coffee Creek	12060201	0.3		N	A	2016
Crystal Creek	Palo Pinto County, Unincorporated Areas	At the confluence with Brazos River	Approximately 0.2 miles upstream of Eaton Road	12060201	0.7		N	A	2016

Flooding Source	Community	Downstream Limit	Upstream Limit	HUC-8 Sub-Basin(s)	Length (mi) (streams or coastlines)	Area (mi ²) (estuaries or ponding)	Floodway (Y/N)	Zone shown on FIRM	Date of Analysis
Crystal Creek	Mineral Wells, City of; Palo Pinto County, Unincorporated Areas	Approximately 0.2 miles upstream of Eaton Road	Approximately 0.6 miles upstream of the confluence of Crystal Creek Tributary 5	12060201	6.2		Y	AE	2016
Crystal Creek Tributary 1	Mineral Wells, City of	At the confluence with Crystal Creek	Approximately 0.4 miles upstream of the confluence of Whatley Creek	12060201	0.9		N	AE	2016
Crystal Creek Tributary 1	Mineral Wells, City of	Approximately 0.4 miles upstream of the confluence of Whatley Creek	Approximately 0.3 miles upstream of the confluence with Crystal Creek Tributary 1.1	12060201	0.4		N	A	2016
Crystal Creek Tributary 1.1	Mineral Wells, City of; Palo Pinto County, Unincorporated Areas	At the confluence with Crystal Creek Tributary 1	Approximately 2.3 miles upstream of the confluence of Crystal Creek Tributary 1.2	12060201	3.1		N	A	2016
Crystal Creek Tributary 1.2	Mineral Wells, City of	At the confluence with Crystal Creek Tributary 1.1	Approximately 0.3 miles upstream of the confluence with Crystal Creek Tributary 1.1	12060201	0.3		N	A	2016
Crystal Creek Tributary 2	Mineral Wells, City of	At the confluence with Crystal Creek	At SE 13 th Avenue	12060201	0.6		N	AE	2016
Crystal Creek Tributary 3	Mineral Wells, City of	At the confluence with Crystal Creek	Approximately 0.6 miles upstream of the confluence of Crystal Creek Tributary 3.1	12060201	1.8		Y	AE	2016

Flooding Source	Community	Downstream Limit	Upstream Limit	HUC-8 Sub-Basin(s)	Length (mi) (streams or coastlines)	Area (mi ²) (estuaries or ponding)	Floodway (Y/N)	Zone shown on FIRM	Date of Analysis
Crystal Creek Tributary 3.1	Mineral Wells, City of	At the confluence with Crystal Creek Tributary 3	Approximately 0.1 miles upstream of the confluence with Crystal Creek Tributary 3	12060201	0.1		N	AE	2016
Crystal Creek Tributary 3.1	Mineral Wells, City of	Approximately 0.1 miles upstream of the confluence with Crystal Creek Tributary 3	Approximately 0.5 miles upstream of the confluence with Crystal Creek Tributary 3	12060201	0.4		N	A	2016
Crystal Creek Tributary 5	Mineral Wells, City of	At the confluence with Crystal Creek	Approximately 0.6 miles upstream of the confluence with Crystal Creek	12060201	0.6		Y	AE	2016
Crystal Creek Tributary 6	Palo Pinto County, Unincorporated Areas	At the confluence with Crystal Creek	Approximately 0.6 miles upstream of the confluence with Crystal Creek	12060201	0.6		N	A	2016
Deep Elm Creek	Palo Pinto County, Unincorporated Areas	At the confluence with Brazos River	Approximately 1.3 miles upstream of the confluence with Brazos River	12060201	1.3		N	A	2016
Deep Elm Creek	Palo Pinto County, Unincorporated Areas	Approximately 1.3 miles upstream of the confluence with Brazos River	Approximately 1.8 miles upstream of the confluence with Possum Kingdom Tributary 11	12060201	1.8		N	A	2016

Flooding Source	Community	Downstream Limit	Upstream Limit	HUC-8 Sub-Basin(s)	Length (mi) (streams or coastlines)	Area (mi ²) (estuaries or ponding)	Floodway (Y/N)	Zone shown on FIRM	Date of Analysis
Dry Branch	Palo Pinto County, Unincorporated Areas	At the confluence with Palo Pinto Creek	Approximately 2.9 miles upstream of the confluence with Palo Pinto Creek	12060201	2.9		N	A	2016
Eagle Creek	Palo Pinto County, Unincorporated Areas	At the confluence with Brazos River	Approximately 1.9 miles upstream of the confluence of Eagle Creek Tributary 5	12060201	12.9		N	A	2016
Eagle Creek Tributary 1	Palo Pinto County, Unincorporated Areas	At the confluence with Eagle Creek	Approximately 1.9 miles upstream of the confluence of Eagle Creek	12060201	1.9		N	A	2016
Eagle Creek Tributary 2	Palo Pinto County, Unincorporated Areas	At the confluence with Eagle Creek	Approximately 0.1 miles upstream of the confluence of Eagle Creek	12060201	0.1		N	A	2016
Eagle Creek Tributary 3	Palo Pinto County, Unincorporated Areas	At the confluence with Eagle Creek	Approximately 2.4 miles upstream of the confluence of Eagle Creek	12060201	2.4		N	A	2016
Eagle Creek Tributary 4	Palo Pinto County, Unincorporated Areas	At the confluence with Eagle Creek	Approximately 1.1 miles upstream of the confluence of Eagle Creek Tributary 4.1	12060201	2.2		N	A	2016

Flooding Source	Community	Downstream Limit	Upstream Limit	HUC-8 Sub-Basin(s)	Length (mi) (streams or coastlines)	Area (mi ²) (estuaries or ponding)	Floodway (Y/N)	Zone shown on FIRM	Date of Analysis
Eagle Creek Tributary 4.1	Palo Pinto County, Unincorporated Areas	At the confluence with Eagle Creek Tributary 4	Approximately 0.5 miles upstream of the confluence of Eagle Creek Tributary 4	12060201	0.5		N	A	2016
Eagle Creek Tributary 5	Palo Pinto County, Unincorporated Areas	At the confluence with Eagle Creek	Approximately 3.1 miles upstream of the confluence of Eagle Creek Tributary 5.1	12060201	3.3		N	A	2016
Eagle Creek Tributary 5.1	Palo Pinto County, Unincorporated Areas	At the confluence with Eagle Creek Tributary 5	Approximately 0.1 miles upstream of the confluence with Eagle Creek Tributary 5	12060201	0.1		N	A	2016
East Fork Keechi Creek	Palo Pinto County, Unincorporated Areas	At the confluence with Keechi Creek	At border of Palo Pinto and Jack Counties	12060201	9.8		N	A	2016
East Fork Keechi Creek Tributary 1	Palo Pinto County, Unincorporated Areas	At the confluence with East Fork Keechi Creek	Approximately 1.3 miles upstream of the confluence with East Fork Keechi Creek	12060201	1.3		N	A	2016
East Fork Keechi Creek Tributary 2	Palo Pinto County, Unincorporated Areas	At the confluence with East Fork Keechi Creek	Approximately 1.2 miles upstream of the confluence with East Fork Keechi Creek	12060201	1.2		N	A	2016

Flooding Source	Community	Downstream Limit	Upstream Limit	HUC-8 Sub-Basin(s)	Length (mi) (streams or coastlines)	Area (mi ²) (estuaries or ponding)	Floodway (Y/N)	Zone shown on FIRM	Date of Analysis
East Fork Keechi Creek Tributary 3	Palo Pinto County, Unincorporated Areas	At the confluence with East Fork Keechi Creek	Approximately 7.7 miles upstream of the confluence with East Fork Keechi Creek	12060201	7.7		N	A	2016
East Fork Keechi Creek Tributary 4	Palo Pinto County, Unincorporated Areas	At the confluence with East Fork Keechi Creek	Approximately 1.6 miles upstream of the confluence with East Fork Keechi Creek	12060201	1.5		N	A	2016
East Fork Keechi Creek Tributary 5	Palo Pinto County, Unincorporated Areas	At the confluence with East Fork Keechi Creek	Approximately 0.8 miles upstream of the confluence with East Fork Keechi Creek	12060201	0.7		N	A	2016
East Fork Keechi Creek Tributary 6	Palo Pinto County, Unincorporated Areas	At border of Palo Pinto and Jack Counties	Approximately 3.4 miles upstream of the confluence with East Fork Keechi Creek Tributary 6.1	12060201	4.6		N	A	2016
East Fork Keechi Creek Tributary 6.1	Palo Pinto County, Unincorporated Areas	At the confluence with East Fork Keechi Creek Tributary 6	Approximately 1.8 miles upstream of the confluence with East Fork Keechi Creek Tributary 6	12060201	1.8		N	A	2016
Edwards Branch	Palo Pinto County, Unincorporated Areas	At the confluence with South Fork Palo Pinto Creek	At border of Palo Pinto and Eastland Counties	12060201	3.9		N	A	2016

Flooding Source	Community	Downstream Limit	Upstream Limit	HUC-8 Sub-Basin(s)	Length (mi) (streams or coastlines)	Area (mi ²) (estuaries or ponding)	Floodway (Y/N)	Zone shown on FIRM	Date of Analysis
Elm Creek	Palo Pinto County, Unincorporated Areas	At the confluence with Brazos River	Approximately 0.9 miles upstream of the confluence of Brazos River	12060201	0.9		N	A	2016
Elm Creek	Palo Pinto County, Unincorporated Areas	Approximately 0.9 miles upstream of the confluence of Brazos River	Approximately 2.6 miles upstream of confluence with Brazos River	12060201	1.7		N	A	2016
Flat Rock Branch	Palo Pinto County, Unincorporated Areas	At the confluence with West Fork Keechi Creek	Approximately 3.4 miles upstream of the confluence with West Fork Keechi Creek	12060201	3.4		N	A	2016
Fog Branch	Palo Pinto County, Unincorporated Areas	At the confluence with Brazos River	Approximately 1.2 miles upstream of the confluence with Brazos River	12060201	1.2		N	A	2016
Fog Branch	Palo Pinto County, Unincorporated Areas	Approximately 1.2 miles upstream of the confluence with Brazos River	Approximately 3.5 miles upstream of the confluence with Brazos River	12060201	2.3		N	A	2016
Fox Hollow Creek	Palo Pinto County, Unincorporated Areas	At the confluence with Cedar Creek	Approximately 1.5 miles upstream of the confluence with Cedar Creek	12060201	1.5		N	A	2016
Fox Hollow Creek	Palo Pinto County, Unincorporated Areas	Approximately 1.5 miles upstream of the confluence with Cedar Creek	Approximately 1.6 miles upstream of the confluence with Possum Kingdom Tributary 6	12060201	5.1		N	A	2016

Flooding Source	Community	Downstream Limit	Upstream Limit	HUC-8 Sub-Basin(s)	Length (mi) (streams or coastlines)	Area (mi ²) (estuaries or ponding)	Floodway (Y/N)	Zone shown on FIRM	Date of Analysis
Gibson Creek	Mingus, City of; Palo Pinto County, Unincorporated Areas	At the confluence with Palo Pinto Creek	At border of Palo Pinto and Erath Counties	12060201	10.0		N	A	2016
Gibson Creek Tributary 1	Palo Pinto County, Unincorporated Areas	At the confluence with Gibson Creek	Approximately 4.3 miles upstream of the confluence with Gibson Creek	12060201	4.3		N	A	2016
Gibson Creek Tributary 2	Palo Pinto County, Unincorporated Areas	At the confluence with Gibson Creek	Approximately 2.7 miles upstream of the confluence with Gibson Creek	12060201	2.7		N	A	2016
Gibson Creek Tributary 3	Mingus, City of; Palo Pinto County, Unincorporated Areas	At the confluence with Gibson Creek	Approximately 4.3 miles upstream of the confluence with Gibson Creek	12060201	4.3		N	A	2016
Gibson Creek Tributary 4	Mingus, City of; Palo Pinto County, Unincorporated Areas	At the confluence with Gibson Creek	Approximately 1.5 miles upstream of the confluence with Gibson Creek	12060201	1.5		N	A	2016
Gilmore Creek	Palo Pinto County, Unincorporated Areas	At the confluence with Edwards Branch	Approximately 2.8 miles upstream of the confluence with Edwards Branch	12060201	2.8		N	A	2016
Grindstone Creek	Palo Pinto County, Unincorporated Areas	At the confluence with East Fork Keechi Creek	Approximately 4.6 miles upstream of the confluence with Salt Branch	12060201	5.4		N	A	2016

Flooding Source	Community	Downstream Limit	Upstream Limit	HUC-8 Sub-Basin(s)	Length (mi) (streams or coastlines)	Area (mi ²) (estuaries or ponding)	Floodway (Y/N)	Zone shown on FIRM	Date of Analysis
Hamilton Hollow	Palo Pinto County, Unincorporated Areas	At the confluence with Possum Kingdom Tributary 3	Approximately 3.5 miles upstream of the confluence with Possum Kingdom Tributary 3_BE	12060201	4.8		N	A	2016
Hill Creek	Palo Pinto County, Unincorporated Areas	At border of Palo Pinto and Parker Counties	Approximately 0.2 miles upstream of the border of Palo Pinto and Parker Counties	12060201	0.2		N	A	2016
Hill Creek	Palo Pinto County, Unincorporated Areas	At border of Palo Pinto and Parker Counties	Approximately 0.3 miles upstream of the border of Palo Pinto and Parker Counties	12060201	0.3		N	A	2016
Honey Creek	Palo Pinto County, Unincorporated Areas	At the confluence with Lake Creek	Approximately 6.9 miles upstream of the confluence with Lake Creek	12060201	6.9		N	A	2016
Indian Creek	Palo Pinto County, Unincorporated Areas	At the confluence with Brazos River	Approximately 3.2 miles upstream of the confluence with Brazos River	12060201	3.2		N	A	2016
Jones Creek	Palo Pinto County, Unincorporated Areas	At the confluence with Palo Pinto Creek	Approximately 2.3 miles upstream of the confluence with Palo Pinto Creek	12060201	2.3		N	A	2016

Flooding Source	Community	Downstream Limit	Upstream Limit	HUC-8 Sub-Basin(s)	Length (mi) (streams or coastlines)	Area (mi ²) (estuaries or ponding)	Floodway (Y/N)	Zone shown on FIRM	Date of Analysis
Keechi Creek	Palo Pinto County, Unincorporated Areas	At the confluence with Brazos River	At the confluence of West Fork Keechi Creek and East Fork Keechi Creek	12060201	9.8		N	A	2016
Keechi Creek Tributary 1	Palo Pinto County, Unincorporated Areas	At the confluence with Keechi Creek	Approximately 0.5 miles upstream of the confluence with Keechi Creek	12060201	0.5		N	A	2016
Keechi Creek Tributary 2	Palo Pinto County, Unincorporated Areas	At the confluence with Keechi Creek	Approximately 2.0 miles upstream of the confluence with Keechi Creek Tributary 2.1	12060201	3.3		N	A	2016
Keechi Creek Tributary 2.1	Palo Pinto County, Unincorporated Areas	At the confluence with Keechi Creek Tributary 2	Approximately 0.5 miles upstream of the confluence with Keechi Creek Tributary 2	12060201	0.5		N	A	2016
Keechi Creek Tributary 3	Palo Pinto County, Unincorporated Areas	At the confluence with Keechi Creek	Approximately 2.1 miles upstream of the confluence with Keechi Creek	12060201	2.1		N	A	2016
Keechi Creek Tributary 4	Palo Pinto County, Unincorporated Areas	At the confluence with Keechi Creek	Approximately 1.2 miles upstream of the confluence with Keechi Creek	12060201	1.2		N	A	2016

Flooding Source	Community	Downstream Limit	Upstream Limit	HUC-8 Sub-Basin(s)	Length (mi) (streams or coastlines)	Area (mi ²) (estuaries or ponding)	Floodway (Y/N)	Zone shown on FIRM	Date of Analysis
Keechi Creek Tributary 5	Palo Pinto County, Unincorporated Areas	At the confluence with Keechi Creek	Approximately 1.8 miles upstream of the confluence with Keechi Creek Tributary 5.2	12060201	3.5		N	A	2016
Keechi Creek Tributary 5.1	Palo Pinto County, Unincorporated Areas	At the confluence with Keechi Creek Tributary 5	Approximately 0.6 miles upstream of the confluence with Keechi Creek Tributary 5.1.1	12060201	1.0		N	A	2016
Keechi Creek Tributary 5.1.1	Palo Pinto County, Unincorporated Areas	At the confluence with Keechi Creek Tributary 5.1	Approximately 1.1 miles upstream of the confluence with Keechi Creek Tributary 5.1	12060201	1.1		N	A	2016
Keechi Creek Tributary 5.2	Palo Pinto County, Unincorporated Areas	At the confluence with Keechi Creek Tributary 5	Approximately 2.3 miles upstream of the confluence with Keechi Creek Tributary 5	12060201	2.3		N	A	2016
Keechi Creek Tributary 6	Palo Pinto County, Unincorporated Areas	At the confluence with Keechi Creek	Approximately 0.9 miles upstream of the confluence with Keechi Creek	12060201	0.9		N	A	2016
Kettle Hollow	Palo Pinto County, Unincorporated Areas	At the confluence with Lake Creek	Approximately 2.9 miles upstream of the confluence with Lake Creek	12060201	2.9		N	A	2016

Flooding Source	Community	Downstream Limit	Upstream Limit	HUC-8 Sub-Basin(s)	Length (mi) (streams or coastlines)	Area (mi ²) (estuaries or ponding)	Floodway (Y/N)	Zone shown on FIRM	Date of Analysis
Lake Creek	Palo Pinto County, Unincorporated Areas	At the confluence with Palo Pinto Creek	Approximately 2.5 miles upstream of the confluence of Lake Creek Tributary 8	12060201	17.7		N	A	2016
Lake Creek Tributary 1	Palo Pinto County, Unincorporated Areas	At the confluence with Lake Creek	Approximately 0.4 miles upstream of the confluence of Lake Creek Tributary 1.1	12060201	1.6		N	A	2016
Lake Creek Tributary 1.1	Palo Pinto County, Unincorporated Areas	At the confluence with Lake Creek Tributary 1	Approximately 0.4 miles upstream of the confluence of Lake Creek Tributary 1	12060201	0.4		N	A	2016
Lake Creek Tributary 3	Palo Pinto County, Unincorporated Areas	At the confluence with Lake Creek	Approximately 0.6 miles upstream of the confluence of Lake Creek Tributary 3.1	12060201	1.3		N	A	2016
Lake Creek Tributary 3.1	Palo Pinto County, Unincorporated Areas	At the confluence with Lake Creek Tributary 3	Approximately 0.3 miles upstream of the confluence of Lake Creek Tributary 3	12060201	0.3		N	A	2016
Lake Creek Tributary 4	Palo Pinto County, Unincorporated Areas	At the confluence with Lake Creek	Approximately 0.4 miles upstream of the confluence of Lake Creek Tributary 4.1	12060201	2.2		N	A	2016

Flooding Source	Community	Downstream Limit	Upstream Limit	HUC-8 Sub-Basin(s)	Length (mi) (streams or coastlines)	Area (mi ²) (estuaries or ponding)	Floodway (Y/N)	Zone shown on FIRM	Date of Analysis
Lake Creek Tributary 4.1	Palo Pinto County, Unincorporated Areas	At the confluence with Lake Creek Tributary 4	Approximately 0.4 miles upstream of the confluence of Lake Creek Tributary 4	12060201	0.4		N	A	2016
Lake Creek Tributary 5	Palo Pinto County, Unincorporated Areas	At the confluence with Lake Creek	Approximately 5.1 miles upstream of the confluence of Lake Creek Tributary 5.1	12060201	2.1		N	A	2016
Lake Creek Tributary 5.1	Palo Pinto County, Unincorporated Areas	At the confluence with Lake Creek Tributary 5	Approximately 0.4 miles upstream of the confluence of Lake Creek Tributary 5	12060201	0.4		N	A	2016
Lake Creek Tributary 6	Palo Pinto County, Unincorporated Areas	At the confluence with Lake Creek	Approximately 1.1 miles upstream of the confluence of Lake Creek Tributary 6.3	12060201	4.1		N	A	2016
Lake Creek Tributary 6.1	Palo Pinto County, Unincorporated Areas	At the confluence with Lake Creek Tributary 6	Approximately 1.0 miles upstream of the confluence of Lake Creek Tributary 6	12060201	1.0		N	A	2016
Lake Creek Tributary 6.2	Palo Pinto County, Unincorporated Areas	At the confluence with Lake Creek Tributary 6	Approximately 1.1 miles upstream of the confluence of Lake Creek Tributary 6	12060201	1.1		N	A	2016

Flooding Source	Community	Downstream Limit	Upstream Limit	HUC-8 Sub-Basin(s)	Length (mi) (streams or coastlines)	Area (mi ²) (estuaries or ponding)	Floodway (Y/N)	Zone shown on FIRM	Date of Analysis
Lake Creek Tributary 6.3	Palo Pinto County, Unincorporated Areas	At the confluence with Lake Creek Tributary 6	Approximately 0.5 miles upstream of the confluence of Lake Creek Tributary 6	12060201	0.5		N	A	2016
Lake Creek Tributary 7	Palo Pinto County, Unincorporated Areas	At the confluence with Lake Creek	Approximately 2.3 miles upstream of the confluence of Lake Creek	12060201	2.3		N	A	2016
Lake Creek Tributary 8	Palo Pinto County, Unincorporated Areas	At the confluence with Lake Creek	Approximately 1.3 miles upstream of the confluence of Lake Creek	12060201	1.3		N	A	2016
Lake Creek Tributary 9	Palo Pinto County, Unincorporated Areas	At the confluence with Lake Creek	Approximately 2.0 miles upstream of the confluence of Lake Creek	12060201	2.0		N	A	2016
Lime Creek	Palo Pinto County, Unincorporated Areas	At the confluence with Crystal Creek	Approximately 0.7 miles upstream of the confluence with Lime Creek Tributary 1	12060201	1.1		N	AE	2016
Lime Creek	Palo Pinto County, Unincorporated Areas	Approximately 0.7 miles upstream of the confluence with Lime Creek Tributary 1	Approximately 2.6 miles upstream of the confluence with Lime Creek Tributary 1	12060201	1.9		N	A	2016
Lime Creek Tributary 1	Palo Pinto County, Unincorporated Areas	Approximately 0.4 miles upstream of the confluence with Lime Creek	Approximately 1.9 miles upstream of the confluence with Lime Creek	12060201	1.4		N	A	2016

Flooding Source	Community	Downstream Limit	Upstream Limit	HUC-8 Sub-Basin(s)	Length (mi) (streams or coastlines)	Area (mi ²) (estuaries or ponding)	Floodway (Y/N)	Zone shown on FIRM	Date of Analysis
Lime Creek Tributary 1	Palo Pinto County, Unincorporated Areas	At the confluence with Lime Creek	Approximately 0.4 miles upstream of the confluence with Lime Creek	12060201	0.4		N	AE	2016
Little Sunday Creek	Palo Pinto County, Unincorporated Areas	At the confluence with Big Sunday Creek	At border of Palo Pinto and Erath Counties	12060201	7.0		N	A	2016
Little Sunday Creek Tributary 1	Palo Pinto County, Unincorporated Areas	At the confluence with Little Sunday Creek	Approximately 2.7 miles upstream of the confluence with Little Sunday Creek Tributary 2	12060201	3.1		N	A	2016
Little Sunday Creek Tributary 2	Palo Pinto County, Unincorporated Areas	At the confluence with Little Sunday Creek Tributary 1	Approximately 0.6 miles upstream of the confluence with Little Sunday Creek Tributary 1	12060201	0.6		N	A	2016
Lost Creek	Palo Pinto County, Unincorporated Areas	At the confluence with Big Sunday Creek	At border of Palo Pinto and Erath Counties	12060201	0.9		N	A	2016
Loving Creek	Palo Pinto County, Unincorporated Areas	At the confluence with Brazos River	Approximately 3.6 miles upstream of the confluence with Loving Creek Tributary 1	12060201	7.0		N	A	2016
Loving Creek Tributary 1	Palo Pinto County, Unincorporated Areas	At the confluence with Loving Creek	Approximately 1.2 miles upstream of the confluence with Loving Creek Tributary 2	12060201	2.7		N	A	2016

Flooding Source	Community	Downstream Limit	Upstream Limit	HUC-8 Sub-Basin(s)	Length (mi) (streams or coastlines)	Area (mi ²) (estuaries or ponding)	Floodway (Y/N)	Zone shown on FIRM	Date of Analysis
Loving Creek Tributary 2	Palo Pinto County, Unincorporated Areas	At the confluence with Loving Creek Tributary 1	Approximately 1.2 miles upstream of the confluence with Loving Creek Tributary 1	12060201	1.2		N	A	2016
Maloney Creek	Palo Pinto County, Unincorporated Areas	At the confluence with Cedar Creek	Approximately 1.5 miles upstream of the confluence with Cedar Creek	12060201	1.5		N	A	2016
Maloney Creek	Palo Pinto County, Unincorporated Areas	Approximately 1.5 miles upstream of the confluence with Cedar Creek	Approximately 5.0 miles upstream of the confluence with Cedar Creek	12060201	3.5		N	A	2016
Middle Creek	Palo Pinto County, Unincorporated Areas	At the confluence with Walnut Creek	Approximately 3.3 miles upstream of the confluence with Middle Creek Tributary 1	12060201	8.3		N	A	2016
Middle Creek Tributary 1	Palo Pinto County, Unincorporated Areas	At the confluence with Middle Creek	Approximately 2.0 miles upstream of the confluence with Middle Creek	12060201	2.0		N	A	2016
Mill Branch	Palo Pinto County, Unincorporated Areas	At the confluence with Eagle Creek	Approximately 0.4 miles upstream of the confluence of Mill Branch Tributary 1	12060201	2.2		N	A	2016
Mill Branch Tributary 1	Palo Pinto County, Unincorporated Areas	At the confluence with Mill Branch	Approximately 1.2 miles upstream of the confluence with Mill Branch	12060201	1.2		N	A	2016

Flooding Source	Community	Downstream Limit	Upstream Limit	HUC-8 Sub-Basin(s)	Length (mi) (streams or coastlines)	Area (mi ²) (estuaries or ponding)	Floodway (Y/N)	Zone shown on FIRM	Date of Analysis
Moore Creek	Palo Pinto County, Unincorporated Areas	Approximately 463 feet upstream of the border of Palo Pinto and Jack Counties	Approximately 2.2 miles upstream of the border of Palo Pinto and Jack Counties	12060201	2.1		N	A	2016
Palo Pinto Creek	Palo Pinto County, Unincorporated Areas; Strawn, City of	At the confluence with Brazos River	At border of Palo Pinto and Stephens Counties	12060201	51.1		N	A	2016
Palo Pinto Creek Tributary	Palo Pinto County, Unincorporated Areas	At the confluence with Palo Pinto Creek	Approximately 1.1 miles upstream of the confluence with Palo Pinto Creek	12060201	1.1		N	A	2016
Palo Pinto Creek Tributary 1	Palo Pinto County, Unincorporated Areas	At the confluence with Palo Pinto Creek	Approximately 1.8 miles upstream of the confluence with Palo Pinto Creek	12060201	1.8		N	A	2016
Palo Pinto Creek Tributary 1	Palo Pinto County, Unincorporated Areas	At the confluence with Palo Pinto Creek	Approximately 0.5 miles upstream of the confluence with Palo Pinto Creek	12060201	0.5		N	A	2016
Palo Pinto Creek Tributary 2	Palo Pinto County, Unincorporated Areas	At the confluence with Palo Pinto Creek	Approximately 1.8 miles upstream of the confluence with Palo Pinto Creek	12060201	1.8		N	A	2016

Flooding Source	Community	Downstream Limit	Upstream Limit	HUC-8 Sub-Basin(s)	Length (mi) (streams or coastlines)	Area (mi ²) (estuaries or ponding)	Floodway (Y/N)	Zone shown on FIRM	Date of Analysis
Palo Pinto Creek Tributary 2	Palo Pinto County, Unincorporated Areas	At the confluence with Palo Pinto Creek	Approximately 6.6 miles upstream of the confluence with Palo Pinto Creek	12060201	6.6		N	A	2016
Palo Pinto Creek Tributary 3	Palo Pinto County, Unincorporated Areas	At the confluence with Lake Creek	Approximately 1.5 miles upstream of the confluence with Lake Creek	12060201	1.5		N	A	2016
Palo Pinto Creek Tributary 5	Palo Pinto County, Unincorporated Areas	At the confluence with Palo Pinto Creek	Approximately 2.5 miles upstream of the confluence with Palo Pinto Creek Tributary 5.2	12060201	2.8		N	A	2016
Palo Pinto Creek Tributary 5.1	Palo Pinto County, Unincorporated Areas	At the confluence with Palo Pinto Creek Tributary 5	Approximately 1.7 miles upstream of the confluence of Palo Pinto Creek Tributary 5.1.1	12060201	2.4		N	A	2016
Palo Pinto Creek Tributary 5.1.1	Palo Pinto County, Unincorporated Areas	At the confluence with Palo Pinto Creek Tributary 5.1	Approximately 1.2 miles upstream of the confluence with Palo Pinto Creek Tributary 5.1	12060201	1.2		N	A	2016
Palo Pinto Creek Tributary 5.2	Palo Pinto County, Unincorporated Areas	At the confluence with Palo Pinto Creek Tributary 5	Approximately 1.7 miles upstream of the confluence with Palo Pinto Creek Tributary 5	12060201	1.7		N	A	2016

Flooding Source	Community	Downstream Limit	Upstream Limit	HUC-8 Sub-Basin(s)	Length (mi) (streams or coastlines)	Area (mi ²) (estuaries or ponding)	Floodway (Y/N)	Zone shown on FIRM	Date of Analysis
Palo Pinto Creek Tributary 6	Gordon, City of; Palo Pinto County, Unincorporated Areas	At the confluence with Palo Pinto Creek	Approximately 2.6 miles upstream of the confluence with Palo Pinto Creek	12060201	2.6		N	A	2016
Palo Pinto Creek Tributary 7	Palo Pinto County, Unincorporated Areas	At the confluence with Palo Pinto Creek	Approximately 0.8 miles upstream of the confluence with Palo Pinto Creek	12060201	0.8		N	A	2016
Palo Pinto Creek Tributary 8	Palo Pinto County, Unincorporated Areas	At the confluence with Palo Pinto Creek	Approximately 2.2 miles upstream of the confluence with Palo Pinto Creek	12060201	2.2		N	A	2016
Panther Creek	Palo Pinto County, Unincorporated Areas	At the confluence with Palo Pinto Creek	Approximately 0.6 miles upstream of the confluence with Panther Creek Tributary 2	12060201	5.2		N	A	2016
Panther Creek Tributary 1	Palo Pinto County, Unincorporated Areas	At the confluence with Panther Creek	Approximately 1.1 miles upstream of the confluence with Panther Creek	12060201	1.1		N	A	2016
Panther Creek Tributary 2	Palo Pinto County, Unincorporated Areas	At the confluence with Panther Creek	Approximately 1.3 miles upstream of the confluence with Panther Creek	12060201	1.3		N	A	2016

Flooding Source	Community	Downstream Limit	Upstream Limit	HUC-8 Sub-Basin(s)	Length (mi) (streams or coastlines)	Area (mi ²) (estuaries or ponding)	Floodway (Y/N)	Zone shown on FIRM	Date of Analysis
Pecan Branch	Graford, City of; Palo Pinto County, Unincorporated Areas	At the confluence with Keechi Creek	Approximately 4.0 miles upstream of the confluence with Pecan Branch Tributary 1	12060201	5.7		N	A	2016
Pecan Branch Tributary 1	Graford, City of; Palo Pinto County, Unincorporated Areas	At the confluence with Pecan Branch	Approximately 1.2 miles upstream of the confluence with Pecan Branch	12060201	1.2		N	A	2016
Pickard Creek	Palo Pinto County, Unincorporated Areas	At border of Palo Pinto and Young Counties	Approximately 0.45 miles upstream of confluence with Possum Kingdom Tributary 7	12060201	2.9		N	A	2016
Pollard Creek	Palo Pinto County, Unincorporated Areas	At the confluence with Brazos River	Approximately 1.3 miles upstream of the confluence with Brazos River	12060201	1.3		N	A	2016
Pollard Creek	Mineral Wells, City of; Palo Pinto County, Unincorporated Areas	Approximately 1.3 miles upstream of the confluence with Brazos River	At the confluence of Pollard Creek Tributaries 4 and 5	12060201	6.8		N	AE	2016
Pollard Creek Tributary 1	Mineral Wells, City of; Palo Pinto County, Unincorporated Areas	At the confluence with Pollard Creek	Approximately 2.1 miles upstream of the confluence with Pollard Creek	12060201	2.1		Y	AE	2016

Flooding Source	Community	Downstream Limit	Upstream Limit	HUC-8 Sub-Basin(s)	Length (mi) (streams or coastlines)	Area (mi ²) (estuaries or ponding)	Floodway (Y/N)	Zone shown on FIRM	Date of Analysis
Pollard Creek Tributary 1	Mineral Wells, City of	Approximately 2.1 miles upstream of the confluence with Pollard Creek	Approximately 2.7 miles upstream of the confluence with Pollard Creek	12060201	0.6		N	A	2016
Pollard Creek Tributary 2	Mineral Wells, City of; Palo Pinto County, Unincorporated Areas	At the confluence with Pollard Creek	Approximately 1.2 miles upstream of the confluence with Pollard Creek	12060201	1.2		Y	AE	2016
Pollard Creek Tributary 4	Mineral Wells, City of; Palo Pinto County, Unincorporated Areas	At the confluence with Pollard Creek	Approximately 0.6 miles upstream of the confluence with Pollard Creek	12060201	0.6		N	AE	2016
Pollard Creek Tributary 5	Mineral Wells, City of; Palo Pinto County, Unincorporated Areas	At the confluence with Pollard Creek	Approximately 0.4 miles upstream of the confluence with Pollard Creek	12060201	0.4		N	AE	2016
Pollard Creek Tributary 6	Palo Pinto County, Unincorporated Areas	At the confluence with Unnamed Tributary to Pollard Creek	Approximately 1.2 miles upstream of the confluence of Unnamed Tributary to Pollard Creek	12060201	1.2		N	A	2016
Pollard Creek Tributary 7	Palo Pinto County, Unincorporated Areas	At the confluence with Pollard Creek	Approximately 0.9 miles upstream of the confluence with Pollard Creek	12060201	0.9		N	AE	2016

Flooding Source	Community	Downstream Limit	Upstream Limit	HUC-8 Sub-Basin(s)	Length (mi) (streams or coastlines)	Area (mi ²) (estuaries or ponding)	Floodway (Y/N)	Zone shown on FIRM	Date of Analysis
Possum Kingdom Tributary 1	Palo Pinto County, Unincorporated Areas	At the confluence with Brazos River	Approximately 1.6 miles upstream of confluence with Brazos River	12060201	1.6		N	A	2016
Possum Kingdom Tributary 1	Palo Pinto County, Unincorporated Areas	Approximately 1.6 miles upstream of confluence with Brazos River	Approximately 5.0 miles upstream of confluence with Brazos River	12060201	3.4		N	A	2016
Possum Kingdom Tributary 2	Palo Pinto County, Unincorporated Areas	At the confluence with Brazos River	Approximately 1.0 mile upstream of the confluence with Brazos River	12060201	1.0		N	A	2016
Possum Kingdom Tributary 2	Palo Pinto County, Unincorporated Areas	Approximately 1.0 mile upstream of the confluence with Brazos River	Approximately 1.1 miles upstream of the confluence with Possum Kingdom Tributary 2_5	12060201	4.7		N	A	2016
Possum Kingdom Tributary 2_1	Palo Pinto County, Unincorporated Areas	At the confluence with Possum Kingdom Tributary 2	Approximately 1.6 miles upstream of the confluence with Possum Kingdom Tributary 2	12060201	1.6		N	A	2016
Possum Kingdom Tributary 2_2	Palo Pinto County, Unincorporated Areas	At the confluence with Possum Kingdom Tributary 2	Approximately 1.4 miles upstream of the confluence with Possum Kingdom Tributary 2_3	12060201	2.4		N	A	2016

Flooding Source	Community	Downstream Limit	Upstream Limit	HUC-8 Sub-Basin(s)	Length (mi) (streams or coastlines)	Area (mi ²) (estuaries or ponding)	Floodway (Y/N)	Zone shown on FIRM	Date of Analysis
Possum Kingdom Tributary 2_3	Palo Pinto County, Unincorporated Areas	At the confluence with Possum Kingdom Tributary 2_2	Approximately 1.4 miles upstream of the confluence with Possum Kingdom Tributary 2_2	12060201	1.4		N	A	2016
Possum Kingdom Tributary 2_4	Palo Pinto County, Unincorporated Areas	At the confluence with Possum Kingdom Tributary 2	Approximately 1.3 miles upstream of the confluence with Possum Kingdom Tributary 2	12060201	1.3		N	A	2016
Possum Kingdom Tributary 2_5	Palo Pinto County, Unincorporated Areas	At the confluence with Possum Kingdom Tributary 2	Approximately 1.2 miles upstream of the confluence with Possum Kingdom Tributary 2	12060201	1.2		N	A	2016
Possum Kingdom Tributary 3	Palo Pinto County, Unincorporated Areas	At the confluence with Brazos River	Approximately 1.3 miles upstream of the confluence with Brazos River	12060201	1.3		N	A	2016
Possum Kingdom Tributary 3	Palo Pinto County, Unincorporated Areas	Approximately 1.3 miles upstream of the confluence with Brazos River	Approximately 0.53 miles upstream of the confluence with Possum Kingdom Tributary 3	12060201	4.3		N	A	2016

Flooding Source	Community	Downstream Limit	Upstream Limit	HUC-8 Sub-Basin(s)	Length (mi) (streams or coastlines)	Area (mi ²) (estuaries or ponding)	Floodway (Y/N)	Zone shown on FIRM	Date of Analysis
Possum Kingdom Tributary 3_BE	Palo Pinto County, Unincorporated Areas	At the confluence with Hamilton Hollow	Approximately 0.82 miles upstream of the confluence with Hamilton Hollow	12060201	0.8		N	A	2016
Possum Kingdom Tributary 3_E	Palo Pinto County, Unincorporated Areas	At the confluence with Possum Kingdom Tributary 3	Approximately 1.1 miles upstream of the confluence with Possum Kingdom Tributary 3_EE	12060201	1.5		N	A	2016
Possum Kingdom Tributary 3_EE	Palo Pinto County, Unincorporated Areas	At the confluence with Possum Kingdom Tributary 3_E	Approximately 0.82 miles upstream of the confluence with Possum Kingdom Tributary 3_EEE	12060201	1.3		N	A	2016
Possum Kingdom Tributary 3_EEE	Palo Pinto County, Unincorporated Areas	At the confluence with Possum Kingdom Tributary 3_EE	Approximately 0.26 miles upstream of the confluence with Possum Kingdom Tributary 3_EE	12060201	0.3		N	A	2016
Possum Kingdom Tributary 3_W1	Palo Pinto County, Unincorporated Areas	At the confluence with Possum Kingdom Tributary 3	Approximately 0.23 miles upstream of the confluence with Possum Kingdom Tributary 3	12060201	0.2		N	A	2016

Flooding Source	Community	Downstream Limit	Upstream Limit	HUC-8 Sub-Basin(s)	Length (mi) (streams or coastlines)	Area (mi ²) (estuaries or ponding)	Floodway (Y/N)	Zone shown on FIRM	Date of Analysis
Possum Kingdom Tributary 4	Palo Pinto County, Unincorporated Areas	At the confluence with Caddo Creek	Approximately 0.85 miles upstream of the confluence with Possum Kingdom Tributary 4_C1	12060201	1.2		N	A	2016
Possum Kingdom Tributary 4_B	Palo Pinto County, Unincorporated Areas	At the confluence with Sam Bass Hollow	Approximately 1.0 miles upstream of the confluence with Possum Kingdom Tributary 4_B1	12060201	1.7		N	A	2016
Possum Kingdom Tributary 4_B1	Palo Pinto County, Unincorporated Areas	At the confluence with Possum Kingdom Tributary 4_B	Approximately 0.52 miles upstream of the confluence with Possum Kingdom Tributary 4_B2	12060201	0.6		N	A	2016
Possum Kingdom Tributary 4_B2	Palo Pinto County, Unincorporated Areas	At the confluence with Possum Kingdom Tributary 4_B1	Approximately 0.52 miles upstream of the confluence with Possum Kingdom Tributary 4_B1	12060201	0.5		N	A	2016
Possum Kingdom Tributary 4_C1	Palo Pinto County, Unincorporated Areas	At the confluence with Possum Kingdom Tributary 4	Approximately 0.54 miles upstream of the confluence with Possum Kingdom Tributary 4	12060201	0.5		N	A	2016

Flooding Source	Community	Downstream Limit	Upstream Limit	HUC-8 Sub-Basin(s)	Length (mi) (streams or coastlines)	Area (mi ²) (estuaries or ponding)	Floodway (Y/N)	Zone shown on FIRM	Date of Analysis
Possum Kingdom Tributary 4_C3	Palo Pinto County, Unincorporated Areas	At the confluence with Caddo Creek	Approximately 0.72 miles upstream of the confluence with Caddo Creek	12060201	0.7		N	A	2016
Possum Kingdom Tributary 4_C4	Palo Pinto County, Unincorporated Areas	At the confluence with Caddo Creek	Approximately 0.45 miles upstream of the confluence with Caddo Creek	12060201	0.5		N	A	2016
Possum Kingdom Tributary 4_D	Palo Pinto County, Unincorporated Areas	At the confluence with Caddo Creek	Approximately 0.65 miles upstream of the confluence with Possum Kingdom Tributary 4_D1	12060201	0.9		N	A	2016
Possum Kingdom Tributary 4_D1	Palo Pinto County, Unincorporated Areas	At the confluence with Possum Kingdom Tributary 4_D	Approximately 0.38 miles upstream of the confluence with Possum Kingdom Tributary 4_D	12060201	0.4		N	A	2016
Possum Kingdom Tributary 4_E	Palo Pinto County, Unincorporated Areas	At the confluence with Caddo Creek	At border of Palo Pinto and Stephens Counties	12060201	1.0		N	A	2016
Possum Kingdom Tributary 4_F	Palo Pinto County, Unincorporated Areas	At the confluence with Caddo Creek	At border of Palo Pinto and Stephens Counties	12060201	0.8		N	A	2016

Flooding Source	Community	Downstream Limit	Upstream Limit	HUC-8 Sub-Basin(s)	Length (mi) (streams or coastlines)	Area (mi ²) (estuaries or ponding)	Floodway (Y/N)	Zone shown on FIRM	Date of Analysis
Possum Kingdom Tributary 6	Palo Pinto County, Unincorporated Areas	At the confluence with Fox Hollow Creek	Approximately 0.15 miles upstream of the confluence with Possum Kingdom Tributary 6_1	12060201	0.5		N	A	2016
Possum Kingdom Tributary 6_1	Palo Pinto County, Unincorporated Areas	At the confluence with Possum Kingdom Tributary 6	Approximately 0.82 miles upstream of the confluence with Possum Kingdom Tributary 6	12060201	0.82		N	A	2016
Possum Kingdom Tributary 6_2	Palo Pinto County, Unincorporated Areas	At the confluence with Possum Kingdom Tributary 6	Approximately 0.82 miles upstream of the confluence with Possum Kingdom Tributary 6	12060201	0.82		N	A	2016
Possum Kingdom Tributary 6_4	Palo Pinto County, Unincorporated Areas	At the confluence with Fox Hollow Creek	Approximately 0.36 miles upstream of the confluence with Fox Hollow Creek	12060201	0.4		N	A	2016
Possum Kingdom Tributary 6_5	Palo Pinto County, Unincorporated Areas	At the confluence with Fox Hollow Creek	Approximately 1.5 miles upstream of the confluence with Fox Hollow Creek	12060201	1.5		N	A	2016

Flooding Source	Community	Downstream Limit	Upstream Limit	HUC-8 Sub-Basin(s)	Length (mi) (streams or coastlines)	Area (mi ²) (estuaries or ponding)	Floodway (Y/N)	Zone shown on FIRM	Date of Analysis
Possum Kingdom Tributary 7	Palo Pinto County, Unincorporated Areas	At the confluence with Pickard Creek	Approximately 0.63 miles upstream of the confluence with Pickard Creek	12060201	0.6		N	A	2016
Possum Kingdom Tributary 7_2	Palo Pinto County, Unincorporated Areas	At the confluence with Pickard Creek	Approximately 1.7 miles upstream of the confluence with Pickard Creek	12060201	1.7		N	A	2016
Possum Kingdom Tributary 7_3	Palo Pinto County, Unincorporated Areas	At the confluence with Pickard Creek	Approximately 0.84 miles upstream of the confluence with Pickard Creek	12060201	0.8		N	A	2016
Possum Kingdom Tributary 11	Palo Pinto County, Unincorporated Areas	At the confluence with Deep Elm Creek	Approximately 1.3 miles upstream of the confluence with Possum Kingdom Tributary 11_1	12060201	2.8		N	A	2016
Possum Kingdom Tributary 11_1	Palo Pinto County, Unincorporated Areas	At the confluence with Possum Kingdom Tributary 11	Approximately 1.0 miles upstream of the confluence with Possum Kingdom Tributary 11	12060201	1.0		N	A	2016
Possum Kingdom Tributary 11_3	Palo Pinto County, Unincorporated Areas	At the confluence with Deep Elm Creek	Approximately 2.4 miles upstream of the confluence with Possum Kingdom Tributary 11_4	12060201	2.4		N	A	2016

Flooding Source	Community	Downstream Limit	Upstream Limit	HUC-8 Sub-Basin(s)	Length (mi) (streams or coastlines)	Area (mi ²) (estuaries or ponding)	Floodway (Y/N)	Zone shown on FIRM	Date of Analysis
Possum Kingdom Tributary 11_4	Palo Pinto County, Unincorporated Areas	At the confluence with Possum Kingdom Tributary 11_3	Approximately 1.2 miles upstream of confluence with Possum Kingdom Tributary 11_5	12060201	2.7		N	A	2016
Possum Kingdom Tributary 11_5	Palo Pinto County, Unincorporated Areas	At the confluence with Possum Kingdom Tributary 11_4	Approximately 0.26 miles upstream of confluence with Possum Kingdom Tributary 11_4	12060201	0.3		N	A	2016
Possum Kingdom Tributary 12	Palo Pinto County, Unincorporated Areas	At the confluence with Brazos River	At the confluence with Possum Kingdom Tributary 12_1	12060201	0.5		N	A	2016
Possum Kingdom Tributary 12	Palo Pinto County, Unincorporated Areas	Approximately 0.2 miles upstream of confluence with Possum Kingdom Tributary 12_1	Approximately 3.0 miles upstream of confluence with Possum Kingdom Tributary 12_1	12060201	2.8		N	A	2016
Possum Kingdom Tributary 12_1	Palo Pinto County, Unincorporated Areas	At the confluence with Possum Kingdom Tributary 12	Approximately 0.2 miles upstream of confluence with Possum Kingdom Tributary 12	12060201	0.2		N	A	2016
Possum Kingdom Tributary 12_1	Palo Pinto County, Unincorporated Areas	Approximately 0.2 miles upstream of confluence with Possum Kingdom Tributary 12	Approximately 0.86 miles upstream of confluence with Possum Kingdom Tributary 12	12060201	0.7		N	A	2016

Flooding Source	Community	Downstream Limit	Upstream Limit	HUC-8 Sub-Basin(s)	Length (mi) (streams or coastlines)	Area (mi ²) (estuaries or ponding)	Floodway (Y/N)	Zone shown on FIRM	Date of Analysis
Ramsey Creek	Palo Pinto County, Unincorporated Areas	At the confluence with Brazos River	Approximately 1.0 miles upstream of confluence with Brazos River	12060201	1.0		N	A	2016
Ramsey Creek	Palo Pinto County, Unincorporated Areas	Approximately 1.0 miles upstream of confluence with Brazos River	Approximately 4.5 miles upstream of confluence with Brazos River	12060201	4.5		N	A	2016
Rock Creek	Palo Pinto County, Unincorporated Areas	At the confluence with Brazos River	Approximately 2.5 miles upstream of confluence with Brazos River	12060201	2.5		N	AE	2016
Rock Creek	Palo Pinto County, Unincorporated Areas	Approximately 2.5 miles upstream of confluence with Brazos River	At border of Palo Pinto and Jack Counties	12060201	2.2		N	A	2016
Rock Creek Tributary 1	Palo Pinto County, Unincorporated Areas	At the confluence with Rock Creek	Approximately 5.6 miles upstream of confluence with Rock Creek	12060201	5.6		N	A	2016
Rock Creek Tributary 1	Palo Pinto County, Unincorporated Areas	At border of Palo Pinto and Parker Counties	Approximately 0.47 miles upstream of the border of Palo Pinto and Parker Counties	12060201	0.5		N	A	2016
Rock Creek Tributary 1	Mineral Wells, City of; Palo Pinto County, Unincorporated Areas	Approximately 0.47 miles upstream of the border of Palo Pinto and Parker Counties	Approximately 2.6 miles upstream of the confluence of Rock Creek Tributary 2	12060201	2.7		Y	AE	2016

Flooding Source	Community	Downstream Limit	Upstream Limit	HUC-8 Sub-Basin(s)	Length (mi) (streams or coastlines)	Area (mi ²) (estuaries or ponding)	Floodway (Y/N)	Zone shown on FIRM	Date of Analysis
Rock Creek Tributary 2	Mineral Wells, City of; Palo Pinto County, Unincorporated Areas	At the confluence with Rock Creek Tributary 1	Approximately 1.8 miles upstream of confluence with Rock Creek Tributary 1	12060201	1.8		Y	AE	2016
Rock Creek Tributary 3	Mineral Wells, City of; Palo Pinto County, Unincorporated Areas	At border of Palo Pinto and Parker Counties	Approximately 4.0 miles upstream of the border of Palo Pinto and Parker Counties	12060201	4.0		N	A	2016
Rock Creek Tributary 4	Mineral Wells, City of	At border of Palo Pinto and Parker Counties	Approximately 0.8 miles upstream of the border of Palo Pinto and Parker Counties	12060201	0.8		N	A	2016
Rock Creek Tributary 7	Palo Pinto County, Unincorporated Areas	At confluence with Rock Creek	Approximately 3.6 miles upstream of confluence with Rock Creek	12060201	3.6		N	A	2016
Rocky Bluff Creek	Palo Pinto County, Unincorporated Areas	At confluence with Buck Creek	Approximately 0.4 miles upstream of the confluence of Rocky Bluff Creek Tributary 2	12060201	4.9		N	A	2016
Rocky Bluff Creek Tributary 1	Palo Pinto County, Unincorporated Areas	At confluence with Rocky Bluff Creek	Approximately 1.3 miles upstream of the confluence of Rocky Bluff Creek	12060201	1.3		N	A	2016

Flooding Source	Community	Downstream Limit	Upstream Limit	HUC-8 Sub-Basin(s)	Length (mi) (streams or coastlines)	Area (mi ²) (estuaries or ponding)	Floodway (Y/N)	Zone shown on FIRM	Date of Analysis
Rocky Bluff Creek Tributary 2	Palo Pinto County, Unincorporated Areas	At confluence with Rocky Bluff Creek	Approximately 0.9 miles upstream of the confluence of Rocky Bluff Creek	12060201	0.9		N	A	2016
Rocky Creek	Palo Pinto County, Unincorporated Areas	At confluence with Palo Pinto Creek	Approximately 3.8 miles upstream of the confluence of Rocky Creek Tributary 2	12060201	8.3		N	A	2016
Rocky Creek Tributary 1	Palo Pinto County, Unincorporated Areas	At confluence with Rocky Creek	Approximately 1.8 miles upstream of the confluence of Rocky Creek	12060201	1.8		N	A	2016
Rocky Creek Tributary 2	Palo Pinto County, Unincorporated Areas	At confluence with Rocky Creek	Approximately 4.0 miles upstream of the confluence of Rocky Creek	12060201	4.0		N	A	2016
Russell Creek	Palo Pinto County, Unincorporated Areas	At confluence with Palo Pinto Creek	At border of Palo Pinto and Stephens Counties	12060201	2.6		N	A	2016
Saline Creek	Palo Pinto County, Unincorporated Areas	At confluence with Big Sunday Creek	Approximately 4.1 miles upstream of the confluence with Big Sunday Creek	12060201	4.1		N	A	2016
Salt Branch	Palo Pinto County, Unincorporated Areas	At confluence with Grindstone Creek	Approximately 7.6 miles upstream of the confluence with Grindstone Creek	12060201	7.6		N	A	2016

Flooding Source	Community	Downstream Limit	Upstream Limit	HUC-8 Sub-Basin(s)	Length (mi) (streams or coastlines)	Area (mi ²) (estuaries or ponding)	Floodway (Y/N)	Zone shown on FIRM	Date of Analysis
Sam Bass Hollow	Palo Pinto County, Unincorporated Areas	At confluence with Caddo Creek	Approximately 1.5 miles upstream of confluence with Possum Kingdom Tributary 4_B	12060201	2.2		N	A	2016
Snider Branch	Palo Pinto County, Unincorporated Areas	At confluence with Palo Pinto Creek	Approximately 6.3 miles upstream of the confluence with Palo Pinto Creek	12060201	6.3		N	A	2016
Soda Springs Creek	Palo Pinto County, Unincorporated Areas	At confluence with Keechi Creek	Approximately 2.9 miles upstream of the confluence with Keechi Creek	12060201	2.9		N	A	2016
South Bills Creek	Palo Pinto County, Unincorporated Areas	At confluence with Bills Creek	Approximately 4.1 miles upstream of the confluence with Bills Creek	12060201	2.2		N	A	2016
South Fork Palo Pinto Creek	Palo Pinto County, Unincorporated Areas	At confluence with Palo Pinto Creek	At border of Palo Pinto and Eastland Counties	12060201	5.0		N	A	2016
South Fork Palo Pinto Creek Tributary 1	Palo Pinto County, Unincorporated Areas	At confluence with South Fork Palo Pinto Creek	Approximately 1.5 miles upstream of the confluence with South Fork Palo Pinto Creek	12060201	1.5		N	A	2016
South Fork Palo Pinto Creek Tributary 2	Palo Pinto County, Unincorporated Areas	At confluence with South Fork Palo Pinto Creek	Approximately 3.9 miles upstream of the confluence with South Fork Palo Pinto Creek	12060201	3.9		N	A	2016

Flooding Source	Community	Downstream Limit	Upstream Limit	HUC-8 Sub-Basin(s)	Length (mi) (streams or coastlines)	Area (mi ²) (estuaries or ponding)	Floodway (Y/N)	Zone shown on FIRM	Date of Analysis
Town Branch	Palo Pinto County, Unincorporated Areas	At confluence with Eagle Creek	Approximately 3.2 miles upstream of the confluence of Town Branch Tributary 1	12060201	5.9		N	A	2016
Town Branch Tributary 1	Palo Pinto County, Unincorporated Areas	At confluence with Town Branch	Approximately 1.8 miles upstream of the confluence of Town Branch Tributary 1.1	12060201	2.4		N	A	2016
Town Branch Tributary 1.1	Palo Pinto County, Unincorporated Areas	At confluence with Town Branch Tributary 1	Approximately 2.7 miles upstream of the confluence of Town Branch Tributary 1	12060201	2.7		N	A	2016
Tributary 5	Palo Pinto County, Unincorporated Areas	At confluence with Brazos River	Approximately 0.47 miles upstream of the confluence with Brazos River	12060201	0.5		N	A	2016
Tributary 6a	Palo Pinto County, Unincorporated Areas	At confluence with Tributary 6d	Approximately 0.38 miles upstream of confluence with Tributary 6e	12060201	2.0		N	A	2016
Tributary 6b	Palo Pinto County, Unincorporated Areas	At confluence with Tributary 6d	Approximately 0.29 miles upstream of confluence with Tributary 6c	12060201	2.3		N	A	2016

Flooding Source	Community	Downstream Limit	Upstream Limit	HUC-8 Sub-Basin(s)	Length (mi) (streams or coastlines)	Area (mi ²) (estuaries or ponding)	Floodway (Y/N)	Zone shown on FIRM	Date of Analysis
Tributary 6c	Palo Pinto County, Unincorporated Areas	At confluence with Tributary 6b	Approximately 0.14 miles upstream of confluence with Tributary 6b	12060201	0.1		N	A	2016
Tributary 6d	Palo Pinto County, Unincorporated Areas	At confluence with Brazos River	Approximately 2.9 miles upstream of confluence with Tributary 6b	12060201	4.4		N	A	2016
Tributary 6e	Palo Pinto County, Unincorporated Areas	At confluence with Tributary 6a	Approximately 0.27 miles upstream of confluence with Tributary 6a	12060201	0.3		N	A	2016
Tributary 10	Palo Pinto County, Unincorporated Areas	At confluence with Brazos River	Approximately 0.85 miles upstream of confluence with Tributary 10b	12060201	1.4		N	A	2016
Tributary 10b	Palo Pinto County, Unincorporated Areas	At confluence with Tributary 10	Approximately 0.64 miles upstream of confluence with Tributary 10	12060201	0.6		N	A	2016
Tributary 11	Palo Pinto County, Unincorporated Areas	At confluence with Brazos River	Approximately 3.0 miles upstream of confluence with Brazos River	12060201	3.0		N	A	2016
Turkey Creek	Palo Pinto County, Unincorporated Areas	At confluence with South Fork Palo Pinto Creek	At border of Palo Pinto and Erath Counties	12060201	3.4		N	A	2016

Flooding Source	Community	Downstream Limit	Upstream Limit	HUC-8 Sub-Basin(s)	Length (mi) (streams or coastlines)	Area (mi ²) (estuaries or ponding)	Floodway (Y/N)	Zone shown on FIRM	Date of Analysis
Turkey Creek Tributary 1	Palo Pinto County, Unincorporated Areas	At the confluence with Turkey Creek	At border of Palo Pinto and Erath Counties	12060201	0.4		N	A	2016
Unnamed Tributary 1	Palo Pinto County, Unincorporated Areas	At border of Palo Pinto and Jack Counties	Approximately 0.6 miles upstream of the confluence with Unnamed Tributary 1.1	12060201	1.2		N	A	2016
Unnamed Tributary 1.1	Palo Pinto County, Unincorporated Areas	At the confluence with Unnamed Tributary 1	Approximately 1.0 miles upstream of the confluence with Unnamed Tributary 1	12060201	1.0		N	A	2016
Unnamed Tributary to Pollard Creek	Mineral Wells, City of	At the confluence with Pollard Creek	Approximately 0.1 miles upstream of the confluence with Pollard Creek	12060201	0.1		N	A	2016
Unnamed Tributary to Pollard Creek	Mineral Wells, City of; Palo Pinto County, Unincorporated Areas	Approximately 0.1 miles upstream of the confluence with Pollard Creek	Approximately 1.2 miles upstream of the confluence with Pollard Creek Tributary 6	12060201	1.4		N	A	2016
Vaughn Branch	Palo Pinto County, Unincorporated Areas	At the confluence with West Fork Keechi Creek	Approximately 4.8 miles upstream of the confluence with West Fork Keechi Creek	12060201	4.8		N	A	2016

Flooding Source	Community	Downstream Limit	Upstream Limit	HUC-8 Sub-Basin(s)	Length (mi) (streams or coastlines)	Area (mi ²) (estuaries or ponding)	Floodway (Y/N)	Zone shown on FIRM	Date of Analysis
Walnut Creek	Palo Pinto County, Unincorporated Areas	At the confluence with Palo Pinto Creek	Approximately 0.5 miles upstream of the confluence with Walnut Creek Tributary 3	12060201	9.1		N	A	2016
Walnut Creek Tributary 1	Palo Pinto County, Unincorporated Areas	At the confluence with Walnut Creek	Approximately 0.8 miles upstream of the confluence with Walnut Creek	12060201	0.8		N	A	2016
Walnut Creek Tributary 2	Palo Pinto County, Unincorporated Areas	At the confluence with Walnut Creek	Approximately 1.0 miles upstream of the confluence with Walnut Creek	12060201	1.0		N	A	2016
Walnut Creek Tributary 3	Palo Pinto County, Unincorporated Areas	At the confluence with Walnut Creek	Approximately 0.8 miles upstream of the confluence with Walnut Creek	12060201	0.8		N	A	2016
Ward Branch	Palo Pinto County, Unincorporated Areas	At the confluence with Brazos River	Approximately 2.0 miles upstream of confluence with Ward Branch Tributary 1	12060201	5.3		N	A	2016
Ward Branch Tributary 1	Palo Pinto County, Unincorporated Areas	At the confluence with Ward Branch	Approximately 1.7 miles upstream of confluence with Ward Branch	12060201	1.7		N	A	2016
Ward Branch Tributary 2	Palo Pinto County, Unincorporated Areas	At the confluence with Ward Branch	Approximately 0.16 miles upstream of confluence with Ward Branch	12060201	0.2		N	A	2016

Flooding Source	Community	Downstream Limit	Upstream Limit	HUC-8 Sub-Basin(s)	Length (mi) (streams or coastlines)	Area (mi ²) (estuaries or ponding)	Floodway (Y/N)	Zone shown on FIRM	Date of Analysis
West Fork Keechi Creek	Palo Pinto County, Unincorporated Areas	At the confluence with Keechi Creek	At border of Palo Pinto and Jack Counties	12060201	5.6		N	A	2016
West Fork Keechi Creek Tributary 1	Palo Pinto County, Unincorporated Areas	At the confluence with West Fork Keechi Creek	Approximately 5.0 miles upstream of the confluence with West Fork Keechi Creek	12060201	5.0		N	A	2016
West Fork Keechi Creek Tributary 2	Palo Pinto County, Unincorporated Areas	At the confluence with West Fork Keechi Creek	Approximately 1.9 miles upstream of the confluence with West Fork Keechi Creek	12060201	1.9		N	A	2016
Whatley Creek	Mineral Wells, City of; Palo Pinto County, Unincorporated Areas	At the confluence with Crystal Creek Tributary 1	Approximately 0.6 miles upstream of the confluence with Crystal Creek Tributary 1	12060201	0.6		N	AE	2016
Whatley Creek	Palo Pinto County, Unincorporated Areas	Approximately 0.6 miles upstream of the confluence with Crystal Creek Tributary 1	Approximately 2.0 miles upstream of the confluence with Crystal Creek Tributary 1	12060201	1.4		N	A	2016
Wilson Hollow	Palo Pinto County, Unincorporated Areas	At the confluence with Lake Creek	Approximately 4.1 miles upstream of the confluence with Lake Creek	12060201	4.1		N	A	2016

Flooding Source	Community	Downstream Limit	Upstream Limit	HUC-8 Sub-Basin(s)	Length (mi) (streams or coastlines)	Area (mi ²) (estuaries or ponding)	Floodway (Y/N)	Zone shown on FIRM	Date of Analysis
Wolf Branch	Palo Pinto County, Unincorporated Areas	At the confluence with Eagle Creek	Approximately 1.5 miles upstream of the confluence of Wolf Branch Tributary 1	12060201	4.3		N	A	2016
Wolf Branch Tributary 1	Palo Pinto County, Unincorporated Areas	At the confluence with Wolf Branch	Approximately 0.4 miles upstream of the confluence with Wolf Branch	12060201	0.4		N	A	2016
Worser Creek	Palo Pinto County, Unincorporated Areas	At the confluence with Palo Pinto Creek	Approximately 8.6 miles upstream of the confluence of Palo Pinto Creek	12060201	8.6		N	A	2016

2.3 Base Flood Elevations

The hydraulic characteristics of flooding sources were analyzed to provide estimates of the elevations of floods of the selected recurrence intervals. The Base Flood Elevation (BFE) is the elevation of the 1% annual chance flood. These BFEs are most commonly rounded to the whole foot, as shown on the FIRM, but in certain circumstances or locations they may be rounded to 0.1 foot. Cross section lines shown on the FIRM may also be labeled with the BFE rounded to 0.1 foot. Whole-foot BFEs derived from engineering analyses that apply to coastal areas, areas of ponding, or other static areas with little elevation change may also be shown at selected intervals on the FIRM.

Cross sections with BFEs shown on the FIRM correspond to the cross sections shown in the Floodway Data table and Flood Profiles in this FIS Report. BFEs are primarily intended for flood insurance rating purposes. For construction and/or floodplain management purposes, users are cautioned to use the flood elevation data presented in this FIS Report in conjunction with the data shown on the FIRM.

2.4 Non-Encroachment Zones

This section is not applicable to this FIS project

2.5 Coastal Flood Hazard Areas

This section is not applicable to this FIS Project

2.5.1 Water Elevations and the Effects of Waves

This section is not applicable to this FIS Project

Figure 5: Wave Runup Transect Schematic

[Not Applicable to this FIS Project]

2.5.2 Floodplain Boundaries and BFEs for Coastal Areas

This section is not applicable to this FIS Project

2.5.3 Coastal High Hazard Areas

This section is not applicable to this FIS Project

Figure 6: Coastal Transect Schematic

[Not Applicable to this FIS Project]

2.5.4 Limit of Moderate Wave Action

This section is not applicable to this FIS Project

SECTION 3.0 – INSURANCE APPLICATIONS

3.1 National Flood Insurance Program Insurance Zones

For flood insurance applications, the FIRM designates flood insurance rate zones as described in each FIRM panel contains an abbreviated legend for the features shown on the maps. However, the FIRM panel does not contain enough space to show the legend for all map features. Figure 3 shows the full legend of all map features. Not that not all of these features may appear on the FIRM panels in Palo Pinto County. Figure 3, “Map Legend for FIRM.” Flood insurance zone designations are assigned to flooding sources based on the results of the hydraulic or coastal analyses. Insurance agents use the zones shown on the FIRM and depths and base flood elevations in this FIS Report in conjunction with information on structures and their contents to assign premium rates for flood insurance policies.

The 1% annual chance floodplain boundary corresponds to the boundary of the areas of special flood hazards (e.g. Zones A, AE, V, VE, etc.), and the 0.2% annual chance floodplain boundary corresponds to the boundary of areas of additional flood hazards.

Table 3 lists the flood insurance zones in Palo Pinto County.

Table 3: Flood Zone Designations by Community

Community	Flood Zone(s)
Gordon, City of	A, X
Graford, City of	A, X
Mineral Wells, City of	A, AE, X
Mingus, City of	A, X
Palo Pinto County, Unincorporated Areas	A, AE, X
Strawn, City of	A, X

3.2 Coastal Barrier Resources System

This section is not applicable to this FIS Project

Table 4: Coastal Barrier Resources System Information

[Not applicable to this FIS project]

SECTION 4.0 – AREA STUDIED

4.1 Basin Description

Table 5 contains a description of the characteristics of the HUC-8 sub-basins within which each community falls. The table includes the main flooding sources within each basin, a brief description of the basin, and its drainage area.

Table 5: Basin Characteristics

HUC-8 Sub-Basin Name	HUC-8 Sub-Basin Number	Primary Flooding Source	Description of Affected Area	Drainage Area (square miles)
Middle Brazos-Palo Pinto	12060201	Brazos River	Middle Brazos-Palo Pinto Watershed encompasses all of Palo Pinto County.	3,149

4.2 Principal Flood Problems

Table 6 contains a description of the principal flood problems that have been noted for Palo Pinto County by flooding source.

Table 6: Principal Flood Problems

Flooding Source	Description of Flood Problems
Brazos River	Major floods cause localized inundation of structures along the Brazos River. Major floods caused by the overflow of the Brazos River have occurred in 1876, June 1930, May 1941, September 1955, May 1957, August 1978, October 1982, May 1990, December 1992, and August 2005 and are well documented. Studies show that the August 1978 storm magnitude was greater than that of any previous storm in the north central Texas region and exceeded the 1-percent-annual-chance flood event at many locations in the upper Brazos River Basin.

Flooding Source	Description of Flood Problems
Crystal Creek and Tributaries	Most of the land area within the corporate limits of Mineral Wells is drained by Crystal Creek and its tributaries; the primary tributary is Crystal Creek Tributary No. 3. Smaller portions of the city are drained by Pollard Creek and the tributaries of Rock Creek. Crystal Creek and East Creek both originate on East Mountain, where their slopes range from 10 percent to 25 percent. This steep slope, combined with impervious, rocky ground on the mountain slopes and the paved surfaces of streets, subdivisions, and developments, results in rapid runoff and high concentration. When the runoff reaches the much gentler slopes at the base of the mountain, flooding commonly occurs. Small overflows occur during most years and cause minor damage. Larger floods, causing damage to residential and business properties, occur when the City of Mineral Wells receives, for example, 5.2 inches of rainfall within 24 hours. Records indicate the city experiences this heavy rainfall on the average of once every five years.

Table 7 contains information about historic flood elevations in the communities within Palo Pinto County.

Table 7: Historic Flooding Elevations

[Not Applicable to this FIS Project]

4.3 Non-Levee Flood Protection Measures

Table 8 contains information about non-levee flood protection measures within Palo Pinto County such as dams, jetties, and or dikes. Levees are addressed in Section 4.4 of this FIS Report.

Table 8: Non-Levee Flood Protection Measures

Flooding Source	Structure Name	Type of Measure	Location	Description of Measure
Brazos River	Morris Sheppard Dam	Dam	Just downstream of Possum Kingdom Lake	Constructed from 1936-1941 by the Brazos River Authority and the Works Progress Administration.
Crystal Creek Tributary 5	N/A	Dam	Approximately 0.1 miles upstream of NE 16 th Street in the City of Mineral Wells	
Palo Pinto Creek	Lake Palo Pinto Dam	Dam	Just downstream of Lake Palo Pinto	Constructed from 1963-1965 by Longview Construction Company
Pollard Creek	Pollard Creek Dam No. 1-A	Dam	Approximately 0.5 miles upstream of NW 11 th Avenue in the City of Mineral Wells	Constructed in 1984; owned by the Palo Pinto Soil and Water Conservation Survey

Flooding Source	Structure Name	Type of Measure	Location	Description of Measure
Pollard Creek Tributary 2	N/A	Dam	Approximately 0.1 miles upstream of American Legion Drive in the City of Mineral Wells	
Pollard Creek Tributary 2	Pollard Creek Dam No. 2	Dam	Approximately 0.3 miles upstream of NW 2 nd Street	Constructed in 1983; owned by the Palo Pinto Soil and Water Conservation Survey

4.4 Levees

This section is not applicable to this FIS Project

Table 9: Levees

[Not Applicable to this FIS Project]